Kodak

i600 Series Scanners

User's Guide

A-61500
Part No. 9E7662

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1 Introduction

This User's Guide provides information and procedures for the *Kodak* i600 Series Scanners. The information in this guide is for use with all of the i600 Series Scanners unless otherwise noted.

Chapter 1, Introduction — provides general information about the i600 Series Scanners including a product description, scanner features, safety information and user precautions.

Chapter 2, Getting Started — includes specifications and instructions on how to install the *Kodak* i600 Series Scanner. Also provides an overview of internal and external scanner components.

Chapter 3, Using the Scanner — includes information on how to prepare your documents for scanning, document feeder and output tray adjustments, scanner calibration and how to scan documents.

Chapter 4, Using the Enhanced Printer — provides procedures for using and maintaining the Enhanced Printer.

Chapter 5, Maintenance — provides maintenance procedures for the i600 Series Scanners, including replacement procedures for the feed module, separation roller and imaging guides.

Chapter 6, Troubleshooting — provides a description of the LED indicators, a problem solving chart, procedures for clearing a document jam and a listing of error messages.

Appendix A, Accessories — provides a description of the optional accessories that can be purchased to support the *Kodak* i600 Series Scanners. Instructions for using these accessories are included with the accessory.

Appendix B, Specifications — provides a listing of the specifications for the *Kodak* i600 Series Scanners.

Scanner models

- *Kodak* i610 Scanner is a desktop duplex black and white and grayscale scanner with an automatic document feeder that runs at 80 pages per minute which includes an enhanced printer.
- *Kodak* i620 Scanner is a desktop duplex color scanner with an automatic document feeder that runs at 80 pages per minute which includes an enhanced printer.
- *Kodak* i640 Scanner is a desktop duplex color scanner with an automatic document feeder that runs at 100 pages per minute which includes an enhanced printer.
- *Kodak* i660 Scanner is a desktop duplex color scanner with an automatic document feeder that runs at 120 pages per minute which includes an enhanced printer.

Optional accessories

***Kodak* Feeder Kit for Ultra-Lightweight Paper** — allows you to feed lightweight paper from a paper weight range of 25 to 75 g/m^2 (7 to 20 lbs).

***Kodak* White Background Accessory** — if you are scanning translucent documents, this accessory will reduce black background bleed-through which produces whiter images.

See Appendix A, *Accessories* for more information.

Scanner features

- Excellent paper handling, image quality, and reliability.
- Color or grayscale at the same speed as black and white.*
- Includes the Brightness and Contrast Control which allows you to create custom color tables.*
- Simultaneous black and white and color image output.*
- Simultaneous black and white and grayscale image output.
- Handles a broad range of paper weights and sizes.
- Easy installation.
- ISIS and TWAIN device drivers are included on a CD that is packed with each scanner.
- International language support.
- Ergonomic design.
- 500-sheet elevator tray.
- Energy Star compliant (also known as “sleep” mode).
- Document printing capabilities.
- Electronic red, green and blue color dropout.
- Output resolutions include:
  - black and white: 200, 240, 300, 400
  - Color:* 100, 150, 200, 240, 300
  - Grayscale: 100, 150, 200, 240, 300
- Multi-feed detection by multiple ultrasonic sensors as well as by length detection.

* Not applicable to the *Kodak* i610 Scanner.

- Automatic and manual feeding.
- JPEG compression allows color and grayscale images to be viewed in most image viewers.
- Image processing features include: iThresholding, Adaptive Threshold Processing, orthogonal rotation, color, black and white and grayscale deskew, auto-crop, automatic color detection, aggressive cropping, error diffusion, toggle patch, auto-color balancing (auto-white balancing) to ensure good color balance after calibration, and more.
- Easily replaceable feed module and separation roller.

Speed/capacity (throughput)

The following speeds (pages per minute) are for color/grayscale and black and white output.

Resolution (dpi)		Landscape Letter			Portrait Letter		
Color/Gray	**Black and White**	**i610/i620**	**i640**	**i660**	**i610/i620**	**i640**	**i660**
100	**-**	80	100	120	69	83	96
150	**-**	80	100	120	69	83	96
200	**200**	80	100	120	69	83	96
240	**240**	53	66	80	46	55	64
300	**300**	53	66	80	46	55	64
-	**400**	<53	<66	<80	<46	<55	<64

Supporting documentation

The following documentation is available to support the *Kodak* i600 Series Scanners:

- **Image Processing Guide,** A-61504 — available in PDF format on the Installation CD.
- **Quick Tips Guide,** A-61501— intended to be used as a quick reference for basic scanner use.
- **FireWire Installation Information**, A-61511 — this installation information is packed with the FireWire cable and should be used to make the required FireWire cable connections.
- **White Background Accessory Instructions**, A-61503 — when you purchase the White Background Accessory these instructions are included and provide a description of how to install the accessory.
- **Ultra-Lightweight Feeder Accessory Instructions**, A-61190 — when you purchase the Ultra-Lightweight Feeder Accessory these instructions are included and provide a description of how to use the Ultra-Lightweight Feed Module.
- **Brightness and Contrast Control Reference Guide**, A-61506 — provides information and procedures for using the Brightness and Contrast Control which allows you to create your own custom color tables.

Safety information

Warning labels

CAUTION: Moving parts, avoid contact.

CAUTION: Hot surface, avoid contact.

MSDS

Material Safety Data Sheets (MSDS) are available on the Kodak website at: www.kodak.com/go/msds. When accessing the MSDSs from the website, you will be required to provide the catalog number of the consumable you want the Material Safety Data Sheet for. See Chapter 5, “Supplies and accessories” for consumables and catalog numbers.

User precautions

Users and their employer need to observe the common sense precautions applicable to the operation of any machinery. These include, but are not limited to, the following:

- Do not wear loose clothing, unbuttoned sleeves, etc.
- Do not wear loose jewelry, bracelets, bulky rings, long necklaces, etc.
- Hair length should be kept short, using a hair net if needed, or tying long hair up in a bundle.
- Remove all other loose objects from the area that could be drawn into the machine.
- Take sufficient breaks to maintain mental alertness.

Supervisors should review their practices and make compliance with these precautions a part of the job description for operation of the scanner or any mechanical device.

Gas springs warning

If the gas springs exhibit a sign of decayed performance, call Service for replacement. Do not attempt to repair.

Environmental information

- The *Kodak* i600 Series Scanners contain lead in the circuit board solder. Disposal of this material may be regulated due to environmental considerations. For disposal or recycling information, please contact your local authorities or, in the USA, visit the Electronics Industry Alliance website: www.eiae.org.
- The product packaging is recyclable.
- The i600 Series Scanners are Energy Star compliant and are shipped from the factory with the default time set to 15 minutes.

EMC statements

United States

This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequently energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Japan

This is a Class A product based on the standard of the Voluntary Control Council for interference by information Technology Equipment (VCCI). If this equipment is used in a domestic environment, radio disturbance may arise. When such trouble occurs, the user may be required to take corrective action.

この装置は、情報処理装置等電波障害自主規制協議会（ＶＣＣＩ）の基準に基づくクラスＡ情報技術装置です。この装置を家庭環境で使用すると電波障害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

Taiwan

WARNING: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

警告使用者：
這是甲類的資訊產品，在居住的環境中使用時，
可能會照造成射頻干擾，在這種情況下，使用者
會被要求採取某些適當的對策。

Peoples Republic of China

WARNING: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

声明，该产

此为A级产品，在生活环境中品可能会造成无线电干扰。在这种情况下，可能需要用户对其干扰采取切实可行的措施

Acoustic emission

Maschinenlärminformationsverordnung – 3, GSGV
Der arbeitsplatzbezogene Emissionswert beträgt <70 db(A).

[Machine Noise Information Ordinance — 3, GSGV
The operator-position noise emission value is <70 dB(A).]

Power system connection

This product is also designed for Norwegian IT power system with phase-to-phase voltage 230V.

2 Getting Started

Site specifications

Place the scanner:

- In a clean area with temperature and relative humidity typical of an office environment,
- on a stable, level work surface,
- within 1.52 metres (5 feet) of an electrical power outlet.

IMPORTANT: Only use the scanner indoors in a dry location.

For more information about the scanner specifications, refer to Appendix B, *Specifications*.

System requirements

Following is the minimum recommended system configuration to run *Kodak* i600 Series Scanners.

NOTE: The actual performance of the system depends on the scanning application, choice of scanning parameters, and the host computer configuration. If the scanner is not performing at the optimal speed, a faster computer and/or more RAM may be necessary to obtain the rated throughput.

- Intel PC (or compatible) with a Pentium IV 2 GHz processor
- PCI slot
- Microsoft Windows 2000 Professional, Windows XP (Professional/ Home)
- 512 MB RAM
- Monitor
- Mouse

Registering your scanner

It is very important that you register your scanner so Kodak can provide you with the best possible service and support that helps maintain your continuous scanning. Registering your scanner will help us provide you with firmware and hardware updates as they become available.

The scanner must be registered before any service support can be provided.

You can register your scanner's new equipment warranty online at www.kodak.com/go/DIwarrantyregistration.

For more information about Kodak's service and support options, contact your reseller of Kodak Document Imaging products or visit us on the web at www.kodak.com/go/DIserviceandsupport.

Making connections

Follow the instructions for installing the IEEE-1394 (FireWire) card and the Kodak driver software before you plug the scanner into the host computer.

IMPORTANT: You must install the software on the host computer before you connect the scanner.

Installing the IEEE-1394 card in the host computer

Install the IEEE-1394 (FireWire) card according to the directions supplied with the IEEE-1394 card.

IMPORTANT: Use proper precautions to avoid static when you install the IEEE-1394 card in your computer. Make sure the computer power cord is disconnected.

Installing the Kodak Driver software

1. Insert the *Kodak* i600 Series Scanners installation CD in the CD-ROM drive. The installation program starts automatically.
2. Follow the on-screen instructions to install the TWAIN Datasource, ISIS Driver and the *Kodak* Scan Validation Tool.
3. Shut down the host computer.

Installing the FireWire cable

An IEEE-1394 six-pin connector is provided on the rear panel of the scanner for IEEE-1394 connectivity.

1. Plug the end of the cable with the right angle into the scanner.

2. Connect the other end of the cable into the IEEE-1394 card outlet in the host computer. Be sure that it is installed correctly and properly seated.

CAUTION: DO NOT FORCE THE CONNECTOR. If the cable is not properly connected, it could cause damage to the scanner.

Attaching the power cord

The *Kodak* i600 Series Scanner is packed with a set of power cords.

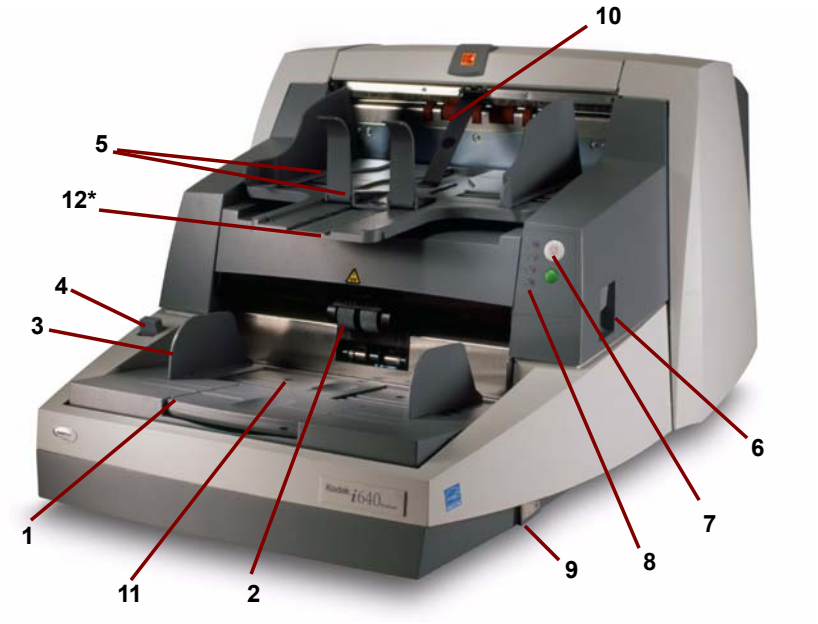
1. Select the power cord which complies with your electrical requirements and attach it.
2. Turn on the scanner and wait until the top green LED is lit indicating the scanner has completed power-up self-test and is idle.

Powering up the host computer

- Turn the power on to the host computer.

Scanner components

Front view



1 **Elevator tray extender** — open the elevator tray extender to accommodate long documents.

2 **Feed module** — provides smooth document feeding of various sizes, thicknesses and textures.

CAUTION:Moving parts, avoid contact.

3 **Elevator tray side guides** — slide the guides in or out to accommodate the document size you want to scan. Side guides can be left-, center- and right-adjusted to accommodate documents of various widths. The side guides can also be locked into position if desired.

4 **Gap Release lever** — allows you to manually adjust the space between the feed module and separation roller for documents that require special handling.

5 **Output tray and End stop** — collects the scanned documents. The output tray width and end stop length can be adjusted.

6 **POD release latch** — push up the POD release latch when you need to access the inside of the scanner.

7 Stop/Pause and Start/Resume buttons —

Stop/Pause (white with red triangle) button: press once to temporarily pause scanning (the green button can then use used to resume scanning). Press twice to stop scanning (end of job).

Start/Resume (green) button: to start scanning.

8 LEDs— illuminate or flash from top to bottom as follows:

 Illuminates when the power is turned on and the scanner is idle. This indicator will flash if the scanner is in “sleep” or lamp saver mode.

illuminates when the scanner is enabled and/or scanning, and flashes when the scanner is powering up.

flashes when a document has jammed in the transport or when a multi-feed has been detected. Illuminates when a user-correctable error has been detected.

Illuminates when you need to call Service.

Refer to Chapter 6, *Troubleshooting*, for complete descriptions of the LED indicators.

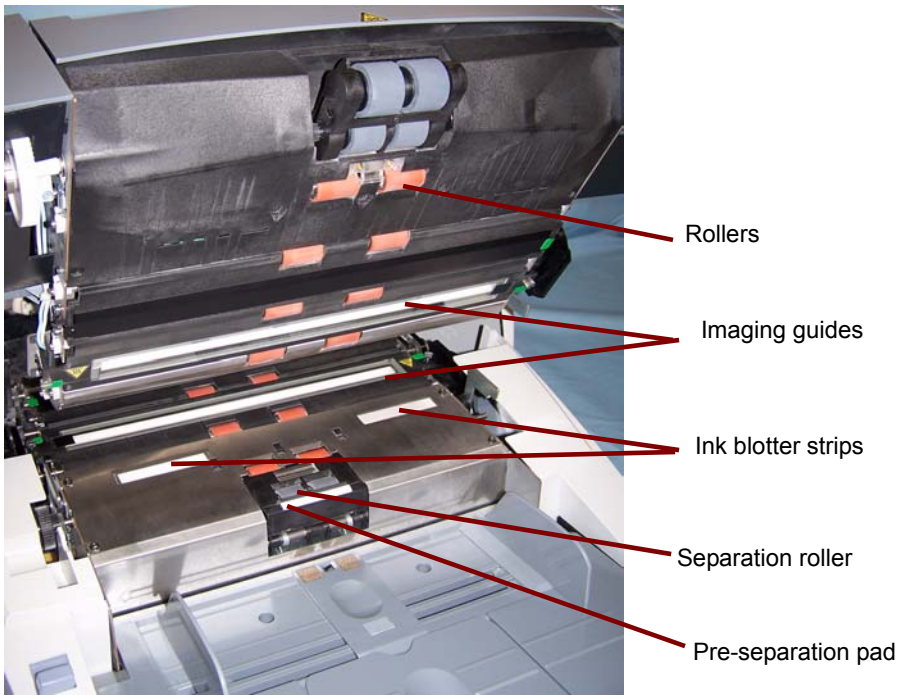
9 Power switch — press the power switch on (I) or off (O) as required.

10 Exit deflector (optional) — aids in document stacking.

11 Paper Present Sensor — detects the presence of documents in the elevator tray.

12* Height Adjustment Wire — located underneath the output tray (not shown in photo), this wire can be pulled out to raise the front of the output tray.

Internal components



Separation roller — provides smooth document feeding of various sizes and textures one document at a time.

Ink blotter strips — collects residue from the Enhanced Printer.

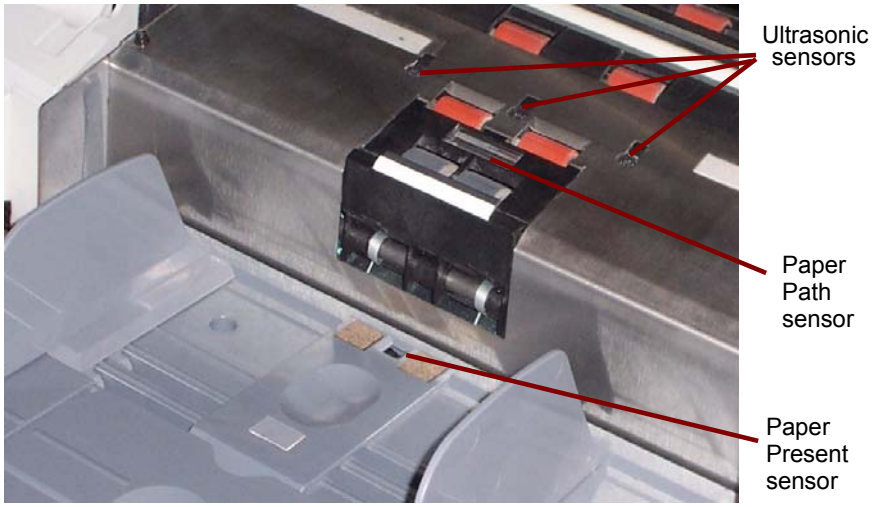
Imaging guides — the scanner has an upper and lower imaging guide. It is important to keep the imaging guides clean to obtain optimum image quality.

CAUTION:Hot surface, avoid contact.

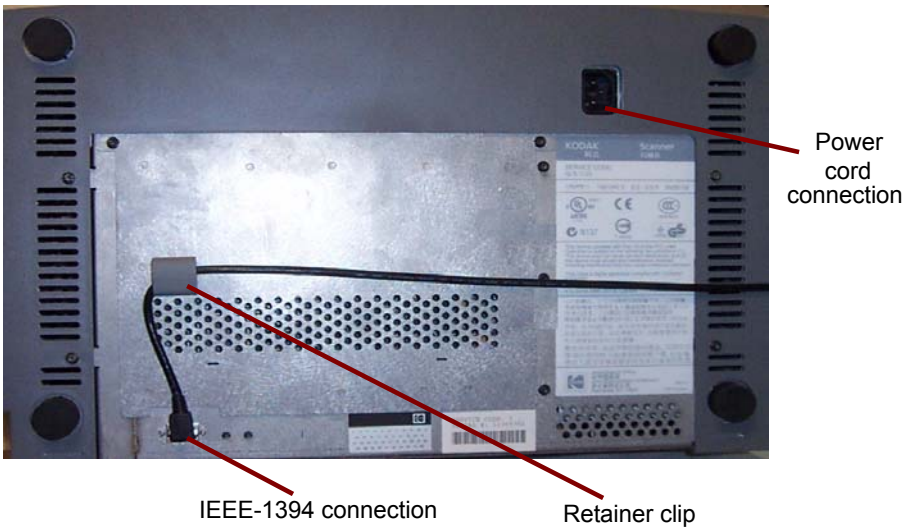
Rollers — drive rollers and NFR rollers transport the documents through the paper path.

Pre-separation pad — provides smooth document feeding of various sizes and textures one document at a time.

Sensors — the scanner has 3 (ultrasonic) multi-feed detection sensors, 1 (optical) paper path sensor and 1 (optical) paper present sensor. These sensors detect the presence of documents in the elevator tray and documents in the paper path during feeding and imaging.



Rear view



Power Cord Connection — provides power to the scanner. The scanner is packed with six power cords. Choose the power cord appropriate for your location and connect it accordingly. Connect the power cord first to the scanner, then to the wall outlet.

FireWire (IEEE-1394) Connection — before connecting the FireWire cable, be sure that power to the scanner is off. See the FireWire instructions packed with the scanner for connection instructions. After connection, place the cable in the retainer clip located above the connector.

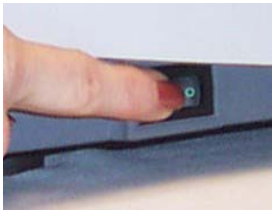
3 Using the Scanner

This chapter provides the following operational procedures:

- Turning on/off the scanner
- Starting, stopping, pausing and resuming the scanner
- Document preparation
- Adjusting the side guides and output tray
- Scanning documents
- Feeding long documents
- Automatic, continuous and manual feeding
- Calibration

Turning the scanner on and off

- Press the button on the scanner's lower right-side (I) to power it up.



- Press the button on the scanner's lower right-side (O) to power it down.

After you power up the scanner, wait until for it to complete self-test. When completed, the top green indicator light will remain on and constant. If this does not occur, refer to Chapter 6, "Indicator lights" for more information.

IMPORTANT: Always power up the scanner to its ready state before powering up or restarting the host computer.

Starting and stopping scanning

Scanning is controlled by integration software developed for your application. To start and stop scanning, refer to the documentation provided with your integration software.

If your application does not automatically start the scanner transport, begin the scanning process by pressing the **Start/Resume** button on the scanner.

NOTE: Before you start scanning, make sure the scanner is ready for operation, which is indicated by the top green indicator light being on and constant.

Manually pausing and resuming the scanner

While scanning documents:

- Press the **Stop/Pause** button on the scanner once to pause scanning.

NOTE: Your application may configure the scanner with a transport timeout function which signals an End of Job. If you do not start/resume scanning before the timeout expires, you cannot continue scanning without restarting the job from the host application.

- Press the **Start/Resume** button on the scanner to restart scanning after it has been paused.

Automatically pausing and resuming the scanner

During scanning the scanner monitors its own internal image buffer memory. In order to prevent overwriting images before the host computer can retrieve them, the scanner will automatically pause the feeder while waiting for the host computer to read existing images.

The scanner automatically resumes scanning by restarting the feeder once image buffer memory is cleared. To avoid this situation be sure your host computer meets the minimum system requirements as referred to in Chapter 2.

Manually ending scanning

After feeding the last document to be scanned, you can end scanning by pressing the Stop/Pause button on the scanner twice. An *end of job* message will be sent to your host application.

You cannot continue scanning without restarting the job from the host application.

Document preparation

Before you begin scanning documents, make certain the documents can be fed through the scanner easily.

- A batch of documents to be fed into the scanner must be arranged so the leading edges of all documents are aligned and centered under the feed module; this allows the feeder to introduce documents into the scanner one at a time.
- Staples and paper clips in documents may damage the scanner and documents. Remove all staples and paper clips before scanning.
- Documents with missing corners, perforated edges, hole punches in the margins, irregular and curled edges, torn, damaged, or crushed pages can be transported successfully through the scanner. However, no scanner can transport every possible type of damaged paper. If in doubt about whether a specific damaged document can be transported through the scanner, place the document in a clear protective sleeve with the lead edge of the document aligned with the folded edge of the sleeve. Sleeves should be manually fed, one at a time, folded edge first, while using the gap release lever. Ultrasonic multi-feed detection is not recommended when using plastic sleeves.

NOTE: When scanning documents in a clear protective sleeve, the elevator tray side guides must be aligned to accommodate the width of the sleeve.

Kodak scanners have been tested with a range of documents that represent the broad spectrum of document types found in the most common business applications. Optimal scanner performance is achieved when scanning documents within the recommended document specifications listed below. Scanning documents outside of these specifications may lead to undesirable results in terms of scanner reliability, image quality, and/or consumable life.

Materials:

- Virgin, recycled and photographic papers
- Clear protective sleeves meeting the size and thickness requirements in this section

Paper Types: Bond, Laser, Inkjet, Offset

Paper Weights: The elevator tray handles a broad range of paper weights from 45 to 200 g/m^2 (12 to 110 lb.). The *Kodak* Feeder Kit for Ultra Lightweight Paper can handle paper weights from 25 to 75 g/m^2 (7 to 20 lbs).

Minimum Document Size: 6.4 x 6.4 cm (2.5 x 2.5 in.). Documents as small as 5 cm (2 in.) (i.e. business cards) can be center-fed, in portrait orientation one at a time.

Maximum Document Size: 30.5 x 86 cm (12 x 34 in.). Documents larger than 43 cm (17 in.) require operator assistance.

Paper inks: All inks on the paper must be dry before scanning is started. This includes: Standard offset printing, Inkjet printer, Thermal transfer, Handwriting inks.

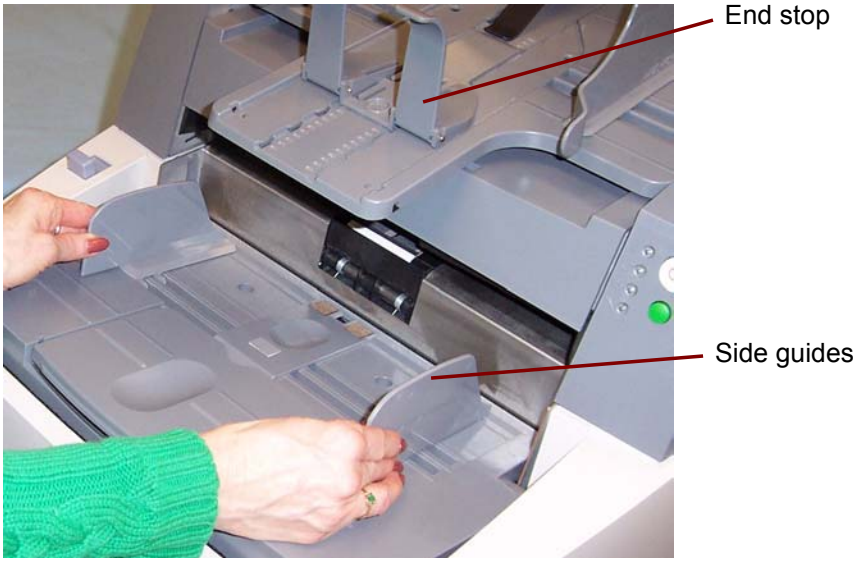
Correction Fluids: Liquid Paper®, Tipp-Ex®, Wite-out®, and other similar correction fluids.

Feeder Capacity: The elevator tray can hold up to 500 sheets of 75 g/m^2 (20 lb.) paper.

Adjusting the side guides and end stop

To accommodate multiple applications with variable feeding requirements, the side guides can be adjusted for right-, left- or center-edge feeding. The side guides can be moved together or independently to achieve offset feeding.

1. Pull the side guides all the way out and then push them together (toward the center) to reset or center them.



2. Open the side guides slightly wider than the documents you will be feeding.
3. Adjust the output tray end stop to slightly longer than the longest document being fed in a batch.
4. Place the documents in the elevator tray.
5. Adjust the side guides to fit the documents.

Locking the side guides

Side guides may be locked into position after they are adjusted. This may be helpful when the placement of print strings is important.

If you want to lock the side guides into position, move any documents which may be in the input tray and move the locking switch into the **locked** position.

Adjusting the back of the output tray

Different paper types stack differently. The output tray can be set in either one of two positions. In addition, you can raise the front of the output tray to lift the front edge of the documents.

To raise or lower the back of the output tray:

1. Lift the front of the output tray and pull it out of the detent position.

2. Set the back of the tray either in the upper position or lower position as desired.

Adjusting the front of the output tray

To raise the front of the output tray:

1. Lift the front of the output tray.
2. Swing the height adjustment wire out from underneath the output tray and insert it into the groove on the printer access cover.

3. When finished using the output tray in this position, tuck the height adjustment wire back into position and lower the output tray.

Adjusting the output tray for long documents up to 43 cm (17 in.)

To adjust the output tray to accommodate long documents from 37 cm 14.5 in.) to 43 cm (17 in.):

1. Lift the front of the output tray and pull it out of the detent position.
2. Place the output tray in the forward detent position.

Forward detent positions

3. Gently push down on the left side of the output tray until in snaps into place.
4. Adjust the output tray end stop to accommodate long (or short) documents by pulling the end stop forward (or backward).
5. Remove the exit deflector.

Adjusting the output tray for documents from 43 cm (17 in.) to 86 cm (34 in.)

An output tray document extender is available for scanning documents from 43 cm (17 in.) to 86 cm (34 in.). Contact your Kodak Field Engineer (1-800-3KODAK3) to order the document extender (Part No. 5E4754).

1. Lift the front of the output tray and pull it out of the detent position.
2. Place the output tray in the forward detent position.
3. Gently push down on the left side of the output tray until in snaps into place.
4. Remove the end stop.
5. Remove the exit deflector.
6. Install the output tray document extender.

Exit deflector

The optional exit deflector aids in document stacking. When feeding long documents, it is suggested that the exit deflector be removed.

The exit deflector can be pulled out of place or pushed into place as required.

Adjusting the optional short document tray

A short document tray is available for scanning smaller documents. This tray can be ordered from Parts Services. See Chapter 5, “Supplies and Consumables” for ordering information.

1. Remove the end stop on the output tray.
2. Slide the short document tray on the rail of the output tray and push it up to the desired position to accommodate your documents.

3. Adjust the side guides as necessary.

Feeding documents using multi-feed detection

The scanner has three multi-feed detection sensors. When Multi-feed detection is enabled, adjust the side guides so the documents fully cover at least one sensor. If the document partially covers a sensor, false multi-feeds may occur.

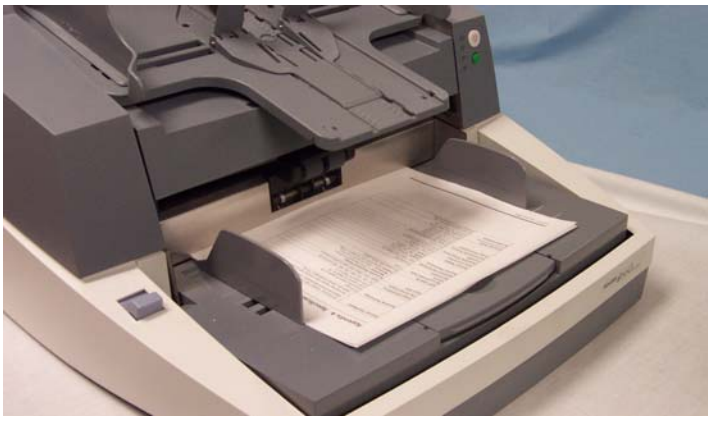
Automatic feeding

To scan a batch of documents follow the guidelines for size, type, quantity, etc., outlined in the “Document preparation” section.

For faster throughput, place documents into the elevator tray in landscape orientation (longer side as the leading edge).

IMPORTANT: Staples and paper clips on documents may damage the scanner. Remove all staples and paper clips before scanning.

1. Align the leading edges of the stacked documents.
2. Position the stack of the documents, face up in the elevator tray so it covers the paper present sensor.



3. Adjust the elevator tray side guides.
4. Adjust the output tray position, if necessary.
5. Adjust the output tray end stop, if necessary.

   Depending on how your scanner is set up, your documents will automatically start scanning, or you may need to press the Start/ Resume button to begin scanning.

Continuous feeding

Continuous feeding can be used when you want to scan small batches of documents (less than 25).

When the scanner is configured for continuous feeding, the elevator tray is raised to a position where approximately 25 documents can be loaded. The elevator tray will remain in this position to allow more documents to be loaded to the bottom of the stack.

To continuously feed documents, follow Steps 1 through 5 above. As the documents are being scanned, you can continuously add a batch of documents to the bottom of the stack.

NOTE: Depending on how your scanner is configured, the transport will stop when the Transport Timeout has been reached.

Manual feeding

To manually feed documents:

1. Position the document you want to feed in the elevator tray so that the paper present sensor is covered.

2. Press **Start/Resume.**

Feeding documents that require special handling

The gap release lever allows you to manually adjust the space between the feed module and separation roller for documents that require special handling; i.e. documents that are badly torn. If you are in doubt about whether a damaged document can be transported through the scanner, use the gap release lever and manually feed the document. Using the scanner in continuous feed mode is recommended when handling special documents.

1. Press and hold the gap release lever — this provides clearance to ease document feeding.

2. Push the document into the elevator tray. If more than one document is to be scanned, feed them one at a time.
3. After the document(s) has been fed, release the gap release lever.

Calibrating the scanner

There are two types of calibration that can be performed on the i600 Series Scanners: Image calibration and Ultrasonics calibration.

- **Image calibration:** optimizes the optical system in your scanner in order to achieve the best overall quality of scanned images. Frequent calibration is not needed or recommended.

IMPORTANT: If the White Background Accessory is installed, it must be replaced with the black background strip, and the scanner must be rebooted prior to calibration.

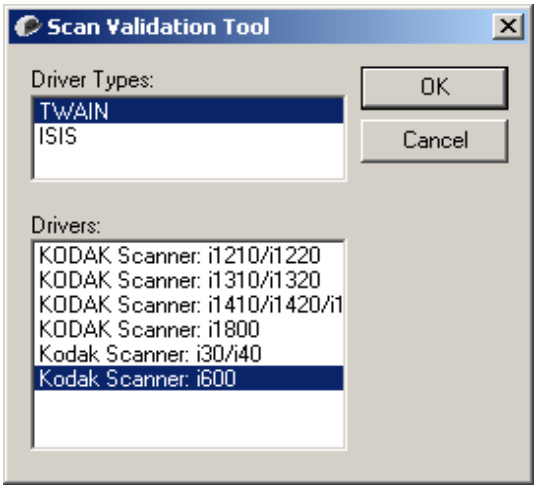
- **Ultrasonics calibration**: ensures that the ultrasonics system that detects multi-feeds and document edges is properly adjusted for best performance. Frequent calibration is not needed or recommended.

Image calibration

Use the calibration target provided with your scanner. Be sure to use a good, clean calibration target. Additional calibration targets can be ordered. See Chapter 5, “Supplies and accessories” for ordering information.

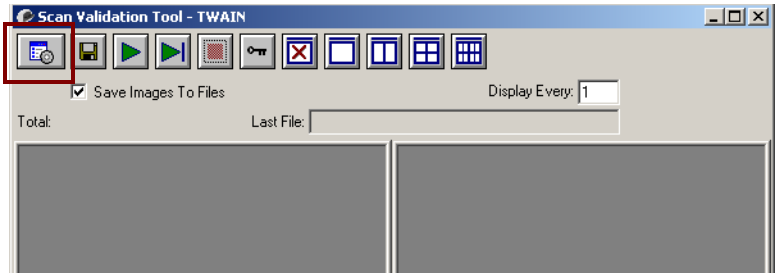
NOTE: The screens shown in this section are for the TWAIN Datasource. The screens displayed on your system may be different.

1. Open the pod and clean the imaging guides. Refer to the maintenance procedures in Chapter 5.
2. If the lamps have not been on, allow the lamps to warm up for 90 seconds.
3. Center the side guides in the elevator tray and output tray.
4. Place the calibration target in the elevator tray.
5. Open the Scan Validation Tool.

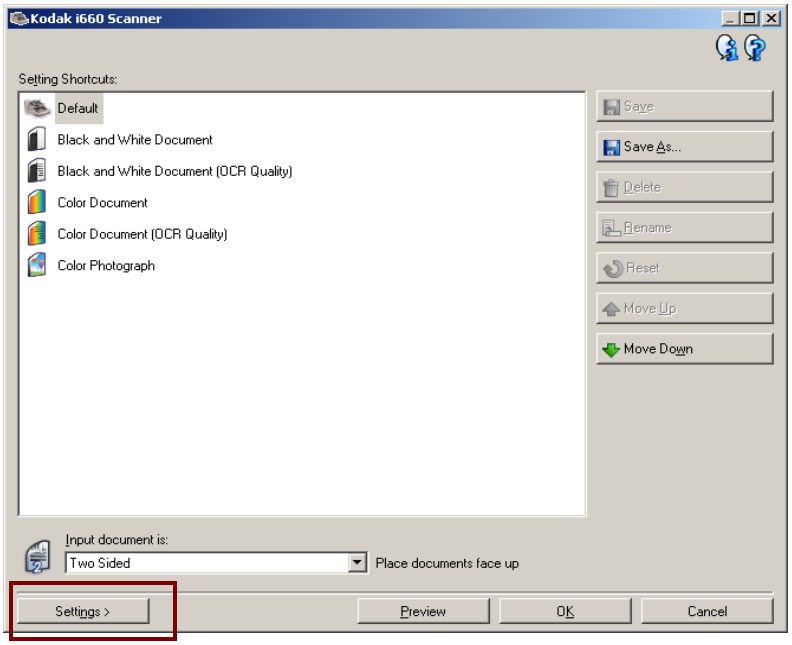


6. Select **Kodak Scanner: i600**.

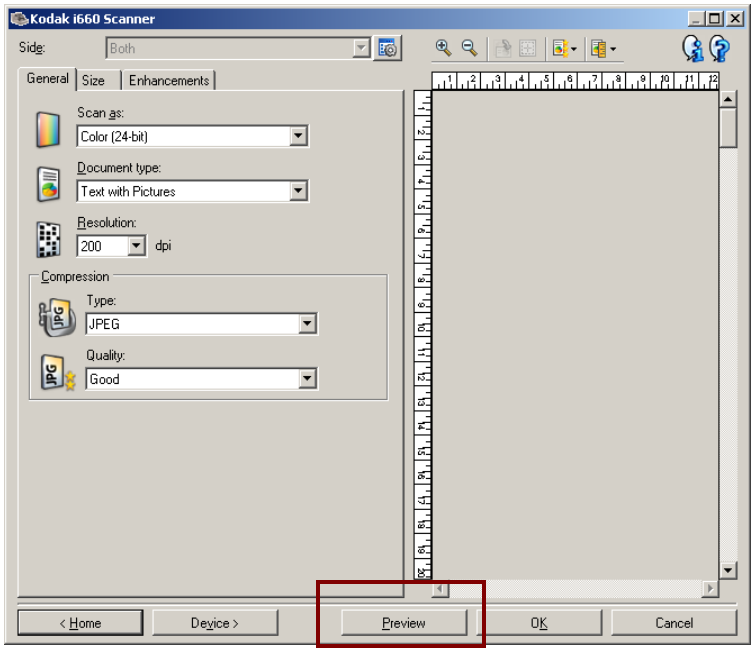
The main *Kodak* Scanner window will be displayed.



7. Click the **Setup** icon to access the main *Kodak* Scanner window.

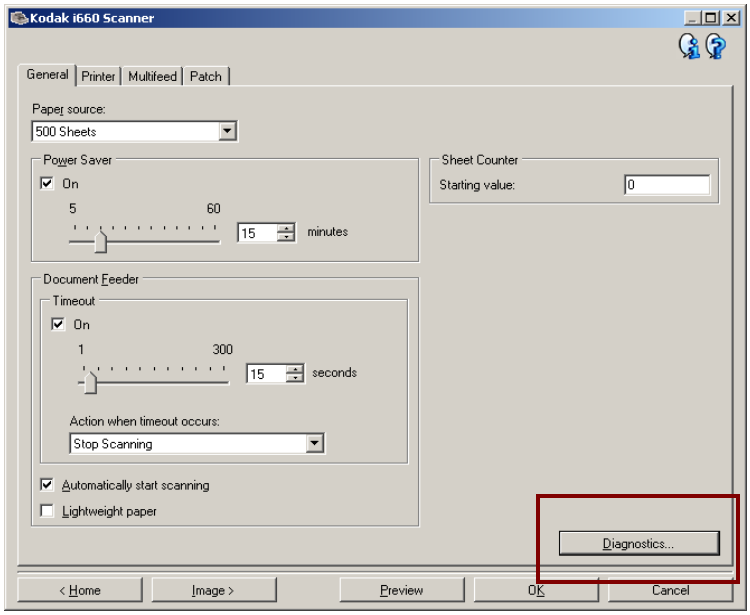


8. Click **Settings**. The following screen will be displayed.

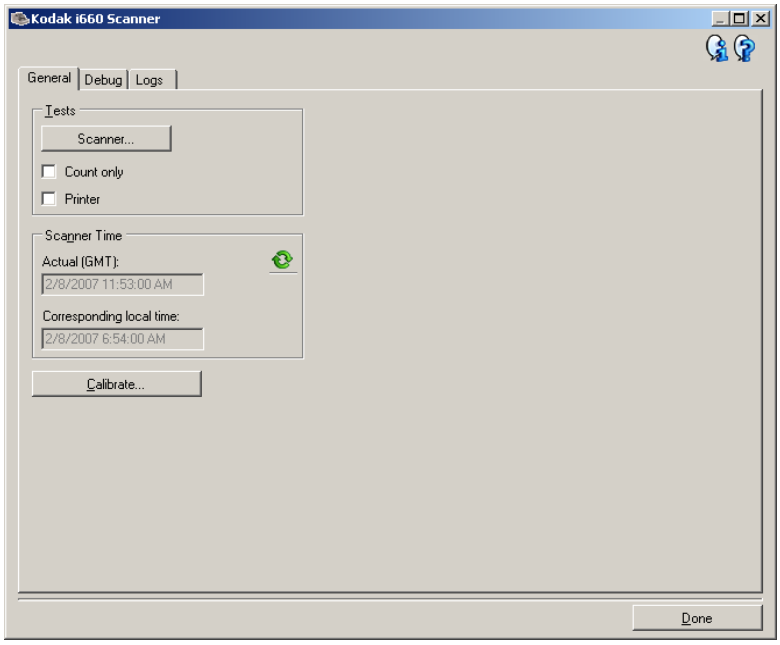


9. Click **Device**.

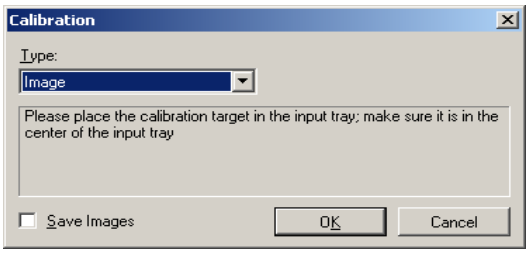
The following screen will be displayed.



10. Click **Diagnostics**. The following screen will be displayed.



11. Click **Calibrate**.



12. Select **Image**. Calibration begins. A confirmation box is displayed when calibration is complete.
13. Click **OK**.

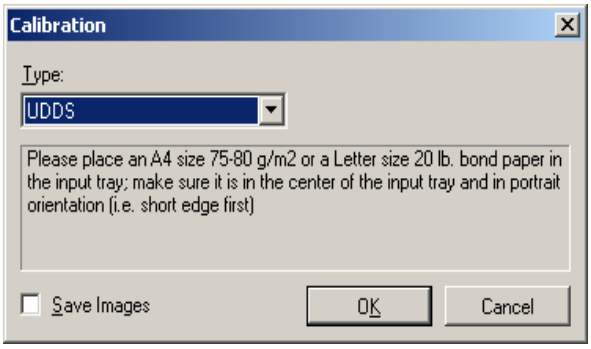
NOTE: If calibration fails, check the Operator Log for details. See Chapter 6, “Accessing the Operator Log” for more information. You must wait at least 90 seconds before calibrating again.

Ultrasonics calibration

Use only an A4 size / 75-80 g/m^2 or lettersize / 20 lb. bond paper to perform an Ultrasonics calibration.

NOTE: The screens shown in this section are for the TWAIN Datasource. The screens displayed on your system may be different.

1. Center the side guides in the elevator tray and output tray.
2. Place the paper in the elevator tray in portrait orientation.
3. Follow Steps 5 - 12 above to access the Calibration dialog box.
4. Select **Type: UDDS**. Calibration begins. A confirmation box is displayed when calibration is complete


Calibration
Type:
UDDS
Please place an A4 size 75-80 g/m2 or a Letter size 20 lb. bond paper in the input tray; make sure it is in the center of the input tray and in portrait orientation (i.e. short edge first)
Save Images
OK
Cancel

5. Click **OK**.

NOTE: If calibration fails, check the Operator Log for details. See Chapter 6, “Accessing the Operator Log” for more information.

4 The Enhanced Printer

This chapter provides instructions for using the Enhanced Printer. The following information and procedures can be found in this chapter:

- Overview information about the Enhanced Printer, including information about print fields and printer specifications.
- Setting horizontal printer positions.
- Replacing the ink cartridge and ink blotter strips.

NOTE: More detailed information on the Enhanced Printer can be found in the *Image Processing Guide*, A-61504.

Overview

The *Kodak* i600 Series Scanners include a factory-installed, pre-configured front printer. The printer operates at full scanner speed. The printer can add a date, time, document sequential counter, and custom messages.

The printer is unique in that the document print string can be configured to include both literal (static) information (i.e., information that stays the same for each document, such as batch name or operator) and dynamic information (i.e., information that may change for each page scanned, such as the document sequential counter). The capture software application controls static fields; any information that the software allows you to enter can be sent to the printer.

All printer controls and functions are accessible through the ISIS Driver or TWAIN Data source. Printing must be enabled or disabled for each scan session.

NOTES:

- Clean the scanner's paper path components daily when using the printer.
- You cannot print on documents that are smaller than 10 cm (4 in.).
- The ink cartridge must be installed prior to powering on the scanner, or it could result in errors when printing is attempted.

Printer specifications

Characteristic	Description
Maximum lines	1
Maximum characters	40
Print locations (horizontal)	12 front manually set,
Print locations (vertical)	Set by capture software application
Print orientation	0, 90, 180 or 270 degrees
Font size	2 selectable, Bold or Normal NOTE: Not all languages can support a Bold font based on the complexity of the characters, such as half-width Katakana.
Ink cartridge	Black: HP-C6602A Red: HP-C6602R Green: HP-C6602G Blue: HP-C6602B
Print side	Front (pre-scan)
Minimum printing distance from document lead edge	0.89 cm (0.35 in.)
Static fields available	User-specified messages via capture software application
Dynamic fields available	Up to a nine-digit sequential document number, date, four-digit time
Languages supported	Any phonetic language (for example: Dutch, English, French, German, Italian, Portuguese, Spanish, Japanese (half-width Katakana)

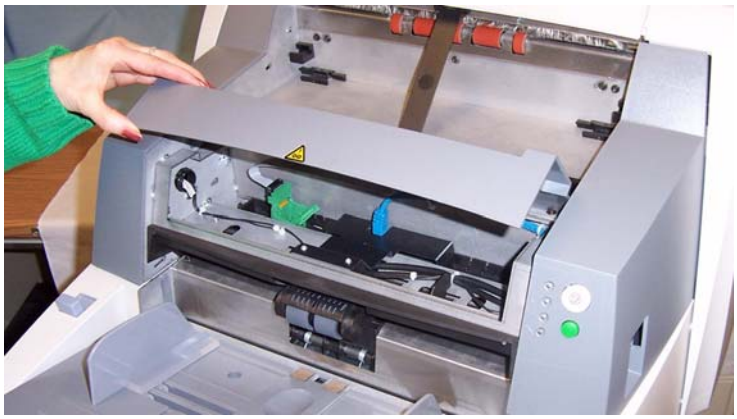
Changing print positions

The horizontal print position can be changed manually.

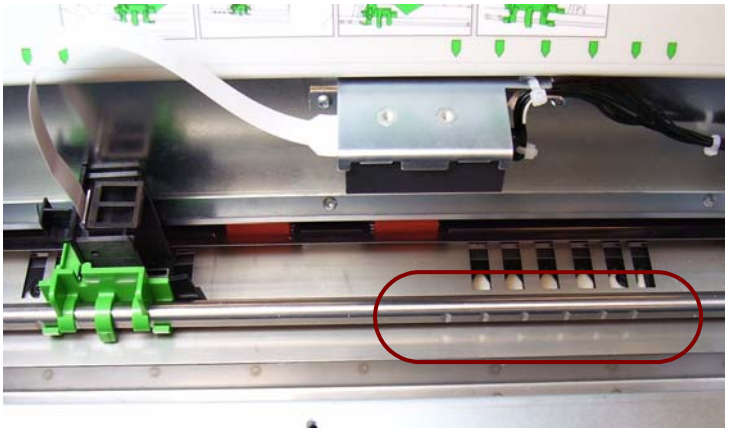
Changing the front horizontal print position

1. Remove the output tray.

2. Open the print access cover.



There are 12 horizontal print positions. These positions are visible by a small detent on the printer rail.



3. The printer carrier slides easily along the rail. There is a small arrow on the green printer carrier. Slide the printer carrier to the desired position aligning the arrow with the detent position on the rail.

4. Close the printer access cover.
5. Reinstall the output tray.

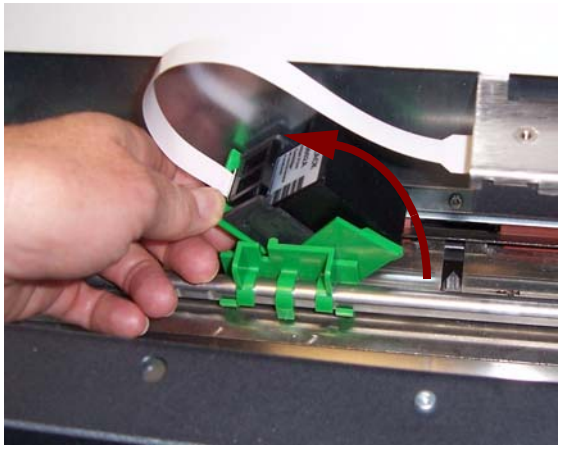
NOTE: Printing automatically stops approximately ½-inch (1.27 cm) from the trailing edge of the document, even if the information has not been completely printed.

Replacing the ink cartridge

Replace the ink cartridge when:

- printed characters appear light or uneven
- missing characters are evident
- a print test reveals inconsistent character quality
- cleaning has not improved the overall print quality

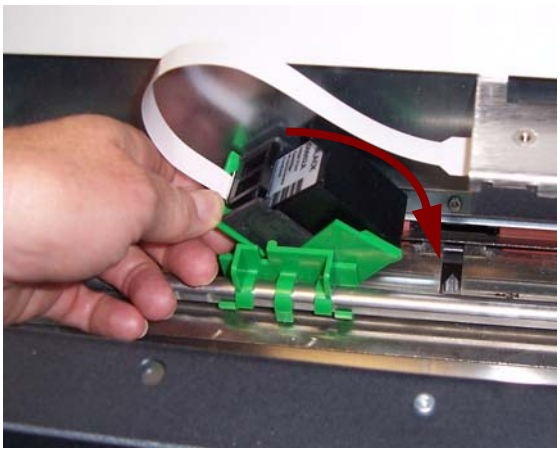
1. Remove the output tray and lift the printer access cover.
2. Holding the printer carrier as shown, press and hold the release tab on the bottom of the printer carrier and rotate the printer carrier to the left until it locks into position.



IMPORTANT: Dispose the empty ink cartridge in accordance with all federal, state and local laws.

3. Lift the ink cartridge out from the printer carrier.
4. Remove the tab from the new ink cartridge.
5. Slightly angle a new ink cartridge in the print carrier and snap it into place.

6. Press and hold the release tab on the bottom of the printer carrier and rotate the printer carrier back into position.



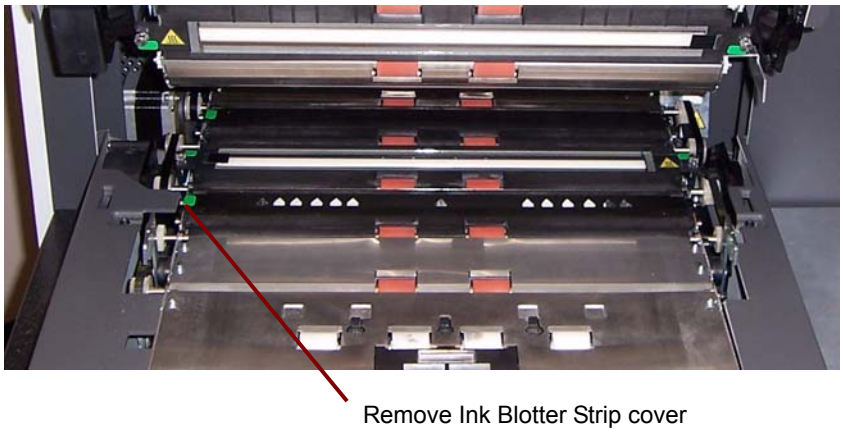
NOTE: If the ribbon cable should become disconnected, snap it back into position.

7. Slide the printer carrier into the desired position matching the arrow on the printer carrier with the detent position.
8. Replace the output tray.
9. Run a print test.

Replacing the blotter strips

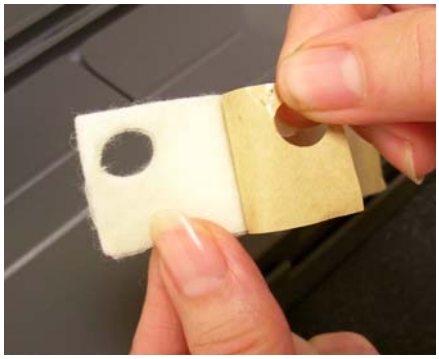
Blotter strips collect ink overflow. They should be replaced when there is a build-up of ink. Replacement blotter strips may be purchased through your supplier.

1. Open the pod.
2. Use the green tab to lift and remove the ink blotter strip cover to access the front blotter strips.

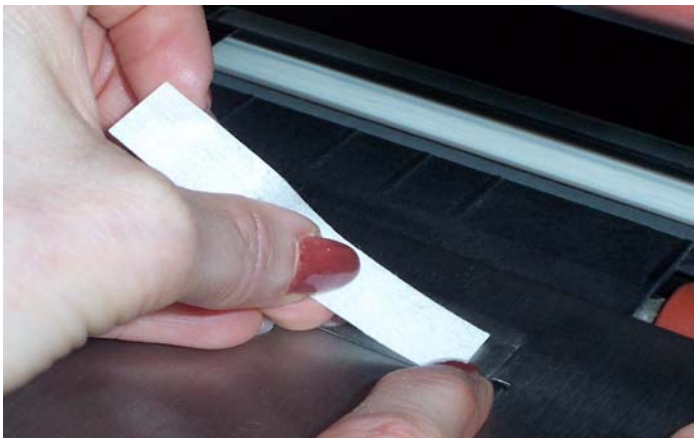


3. Carefully pull the blotter strip(s) off the transport. You can replace one or both of the strips as necessary..

4. Discard the soiled strip(s)
5. Peel the backing away from the blotter strip.



6. Align the blotter strip in the transport channel. Be sure it is properly aligned before pressing the adhesive side into the channel.
7. Press the blotter strip firmly into the channel.



8. Repeat Steps 5 - 7 for the other blotter strip, if necessary.
9. Replace the ink blotter strip cover.
10. Close the pod.

5 Maintenance

This chapter provides:

- a cleaning frequency chart
- a list of cleaning tools and materials
- a list of supplies and accessories
- cleaning procedures for the scanner
- replacement procedures for parts that are customer-replaceable

IMPORTANT: Scanner components marked with a green tab indicate operator-accessible parts.

Cleaning your scanner and preventative maintenance on a regular basis is required to ensure the best possible image quality. The following is a preventative maintenance procedure that is recommended to prevent costly interruptions during production scanning. Following this procedure as recommended should take approximately 5 to 10 minutes.

Some document types generate more paper dust and debris and may require more frequent cleaning than recommended.

NOTES:

- Some debris from the rubber tires on the feed module and separation roller is normal. Tire debris does not always mean that the tires are worn or damaged. After cleaning, inspect the tires for wear and replace the separation roller or feed module if necessary.
- When cleaning rollers/tires, allow the rollers/tires to dry completely before scanning.
- Using unapproved cleaning fluids or solvents may damage the rubber tires.

Cleaning frequency chart

A recommended cleaning sequence includes vacuuming the scanner transport, cleaning the residue from the feed module, separation roller or drive rollers and cleaning the imaging guides.

Use the chart below as a guide to how frequently you should clean your scanner.

Procedure	Start of day	Middle of shift	Start of new shift
Vacuum output tray and input areas (elevator and transport)	x		
Clean all rollers	x		x
Vacuum transport area	x	x	x
Remove and vacuum under background strips	x		
Remove and clean imaging guides	x		x
Vacuum under imaging guides	x		x
Run transport cleaning sheet	x		x
Wipe imaging guides with cloth	x	x	x

Cleaning tools and materials

Use only these cleaning tools and materials when performing routine maintenance on your scanner. Use of any other cleaning materials could damage your scanner.

- *Kodak Digital Science* Transport Cleaning Sheets
- *Kodak Digital Science* Roller Cleaning Pads
- Staticide Wipes for *Kodak* Scanners
- A vacuum cleaner and tools

Supplies and accessories

Contact your scanner supplier to order supplies.

Item	CAT No.
Kodak Feeder Consumables Kit for i600/i1800 Series Scanners	108 4755
Kodak Feeder Kit for Ultralightweight Paper for i600/i1800 Series Scanners	896 5279
Kodak Extra-Large Feeder Consumables Kit for i600/i1800 Series Scanners	842 6157
Kodak Extra-Extra-Large Feeder Consumables Kit for i600/ i1800 Series Scanners	134 3680
Kodak Imaging Guide Set / for i600/i1800 Series Scanners	197 6703
Kodak Printer Ink Blotters, Front Side for i600/i1800 Series Scanners	125 7633
Kodak Enhanced Printer Ink Cartridge	113 3842
Enhanced Printer Black Ink Cartridge (qty 3)	818 3386
Enhanced Printer Red Ink Cartridge (qty 3)	159 832
Kodak Digital Science Transport Cleaning Sheets (qty 50)	169 0783
Kodak Digital Science Roller Cleaning Pads (qty 24)	853 5981
Staticide Wipes for *Kodak* Scanners (qty 144)	896 5519
Kodak Calibration Targets (qty 5)	127 1436

NOTE: Items and catalog numbers are subject to change.

Ordering parts

The following parts can be ordered from Parts Services.

Parts	Part No.
Exit deflector	3E9575
Black Background	9E3357
26 in document extender (qty 1)	5E4754
30 in document extender (qty 1)	9E3216
34 in document extender (qty 1)	9E5277
Short document tray	9E5746

Cleaning procedure

Follow the cleaning procedure below to ensure the best scanner performance and image quality.

Cleaning the output tray and elevator area

1. Power down the scanner.
2. Remove the output tray.

3. Thoroughly vacuum the output tray area and the input area (elevator) using a brush attachment of a vacuum cleaner.

Opening the pod

4. Push up on the pod release lever and open the pod.

Cleaning the drive rollers

5. Manually rotate and wipe the NFR and drive rollers with a roller cleaning pad.

   IMPORTANT: The roller cleaning pad contains sodium lauryl ether sulfate and sodium silicate which can cause eye irritation. Refer to the MSDS for more information.

6. Dry the rollers with a lint-free cloth.

Cleaning the separation roller tires

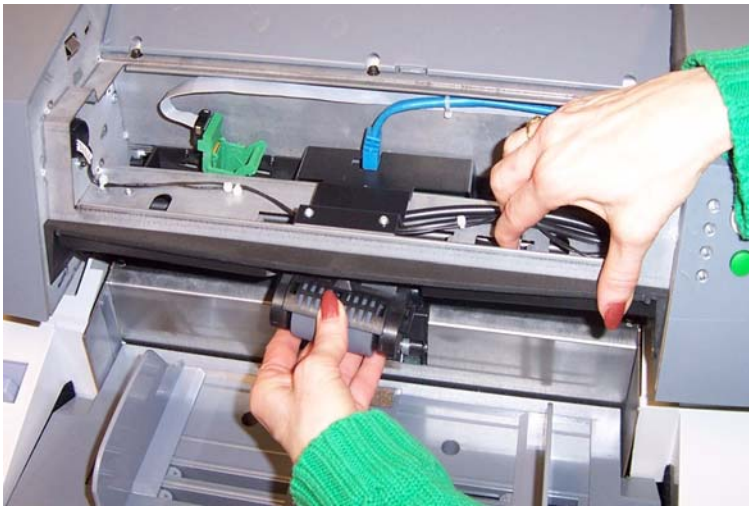
7. Pull the separation pad holder forward and remove the separation roller.

8. Manually rotate and wipe the separation roller tires with a roller cleaning pad. For best results wipe parallel to the ribs in order to remove any residue between the ribs.
9. Inspect the tires. If the tires show signs of wear or damage, replace the separation roller. See “Replacement procedures” later in this chapter.
10. Reinstall the separation roller.

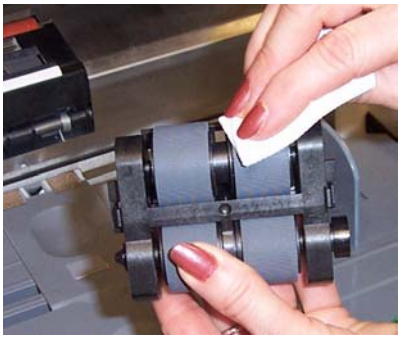
Cleaning the feed module tires

11. Lift up the printer access cover.

12. Push the release lever down (located underneath the printer access cover) to release and remove the feed module.

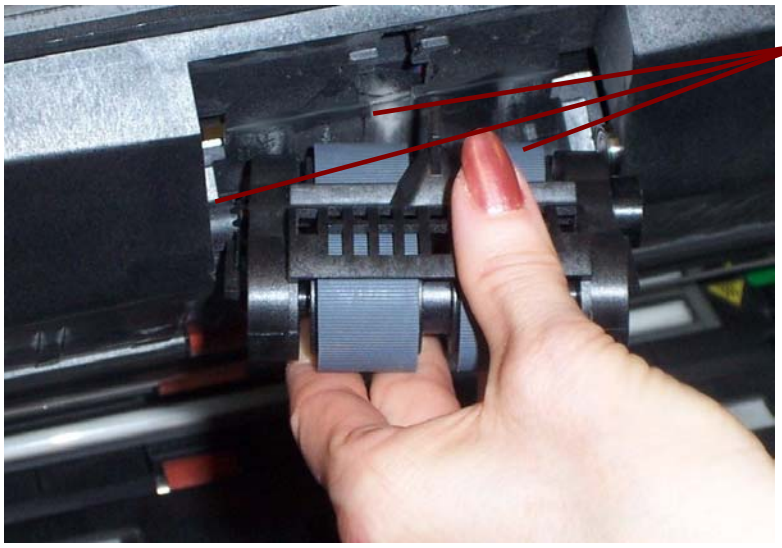


13. Manually rotate and wipe the feed module tires with a roller cleaning pad. For best results wipe parallel to the ribs in order to remove any residue between the ribs.



14. Inspect the tires. If the tires show signs of wear or damage, replace the feed module tires. See “Replacement procedures” later in this chapter.

15. Reinstall the feed module by aligning the pins, fitting it into position and pulling up on the release lever to lock it into place. Verify that the feed module is securely in place and moves freely after you install it.

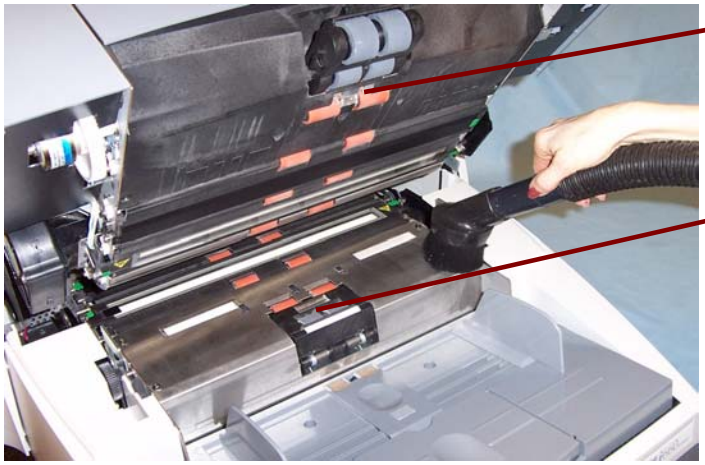


16. Close the printer access cover.

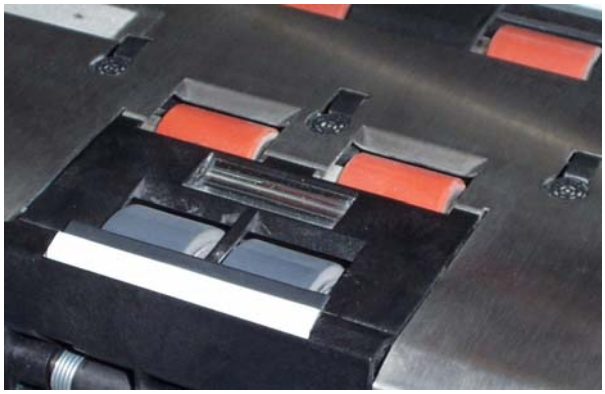
Cleaning the scanner transport area

17. Thoroughly vacuum the entire transport area, paying particular attention to these areas:

    - the edges of the transport
    - the reflective tape near the front of the transport
    - the reflective tape near the front of the pod

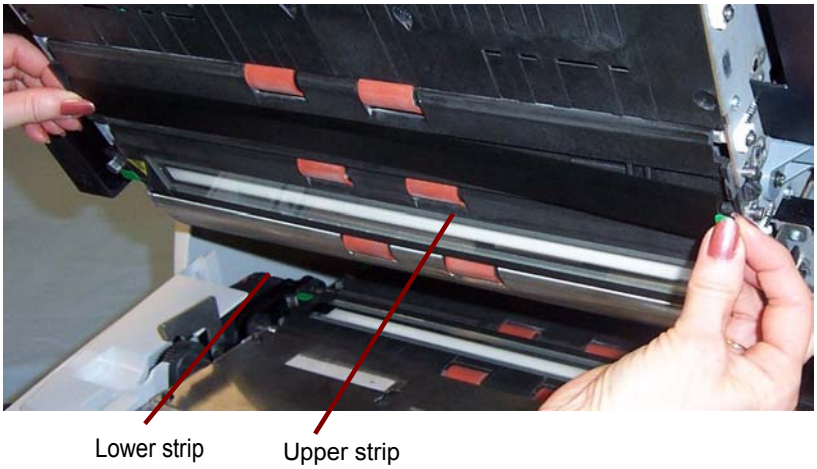


    - the three paper path sensors at the base of the transport and the pod



Cleaning the background strips

18. Using the green tabs pull off the upper and lower background strips and set them aside.



19. Vacuum the areas where the background strips are adhered to.
20. Reinstall the upper and lower background strips.

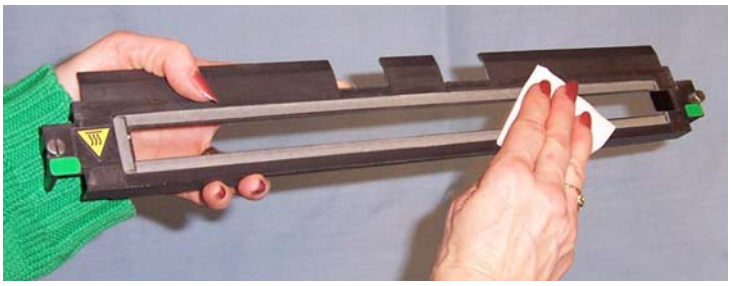
Cleaning the imaging guides

21. Turn the screw on each end of the upper imaging guide, remove it from its position and set it aside.

22. Turn the screw on each end of the lower imaging guide, remove it from its position and set it aside.

23. Carefully vacuum the areas between the lamps (both upper and lower), then use a Staticide wipe to thoroughly clean the glass dust plate between the lamps.

24. Clean the imaging guides thoroughly with a Staticide wipe.



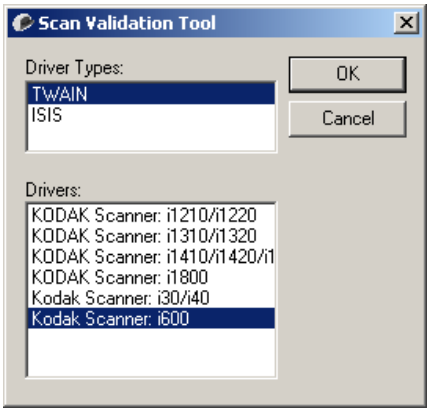
IMPORTANT: Staticide wipes contain isopropanol which can cause eye irritation and dry skin. Wash your hands with soap and water after performing maintenance procedures. Refer to the MSDS for more information.

25. Reinstall the upper and lower imaging guides. Handle the imaging guides carefully as to not put fingerprints on the guides.
26. Close the pod.
27. Reinstall the output tray.

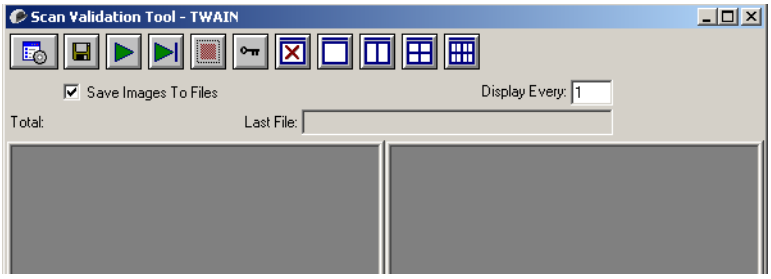
28. Power on the scanner.

Running a transport cleaning sheet

1. Place a transport cleaning sheet in the elevator tray in landscape orientation.
2. Open the Scan Validation Tool by selecting **Start>Programs> Kodak>Document Imaging>Scan Validation Tool.** The Scan Validation Tool dialog box will be displayed.
3. Select **TWAIN** (or **ISIS**) for the Driver Types and **Kodak Scanner i600** as the Driver and click **OK**.



The Scan Validation Tool dialog box will be displayed.



4. If **Saved images to file** is checked, uncheck it.
5. Click **Start**
6. After the transport sheet is scanned, turn it over and click **Start** again.
7. Open the pod and wipe the imaging guides with a lint-free cloth.
8. Close the pod and check your image quality.

Replacement procedures

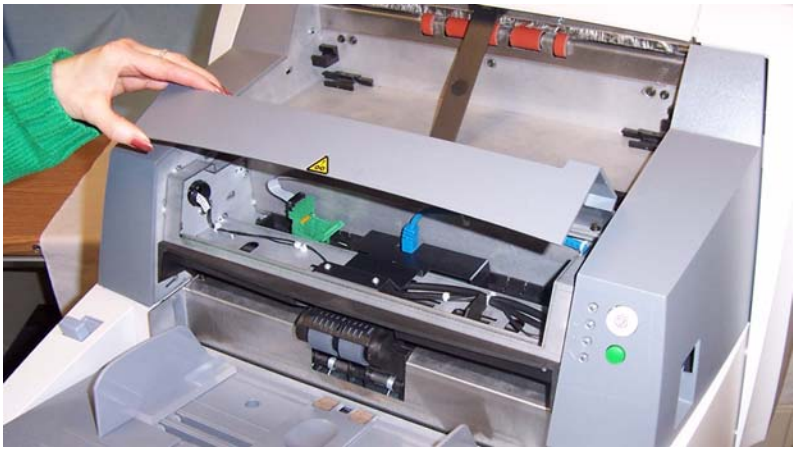
This section provides procedures for replacing the following parts. Use the list below as a guideline for frequency of replacement.

- **Feed Module tires and Separation Roller tires** — tire life will vary depending upon paper types, environment and cleanliness. Nominal tire life will be approximately 250,000 documents; results will vary. Degradation of feeder performance, multiple feeds, stoppages, etc. indicate a need to change tires. Change all the tires on the feed module and separation roller at the same time.
- **Feed Module and Separation Roller** — it is recommended that you install a new feed module and separation roller approximately every 4th tire change. Install a new feed module and separation roller at the same time.
- **Pre-separation Pad** — it is recommended that you change the pre-separation pad approximately every 250,000 documents.
- **Imaging Guides** — replace when the imaging guides are heavily scratched and defects show in the image.

Replacing the feed module or feed module tires

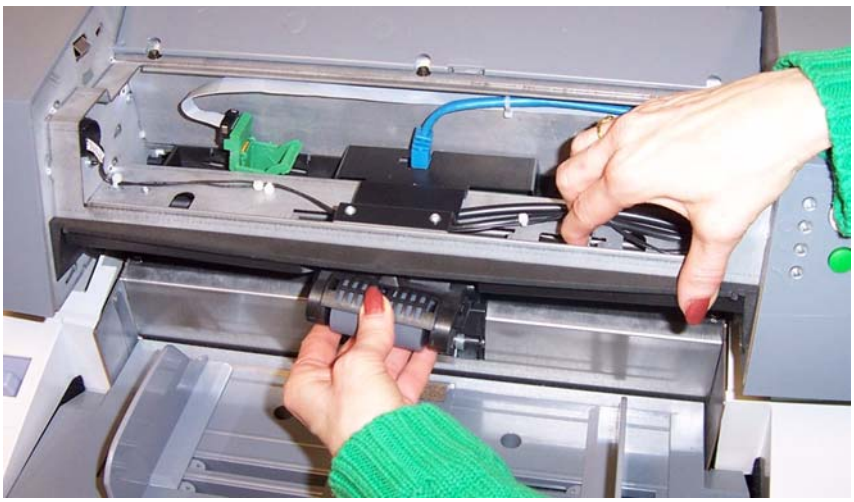
To replace the feed module or feed module tires:

1. Remove the output tray.
2. Lift up the printer access cover.

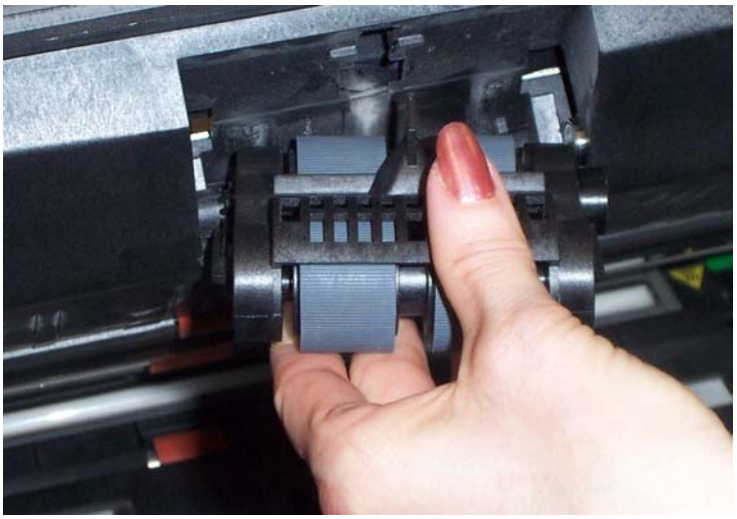


3. Open the pod.

4. Push down on the release lever (located underneath the printer access cover) to release and remove the feed module.



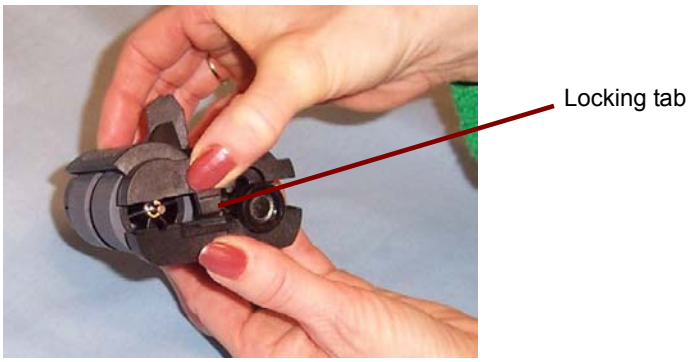
5. If you are just replacing the feed module:
   - Insert the new feed module by aligning the pins, fitting it into position and pulling up on the release lever to lock it into place. Verify that the feed module is securely in place and moves freely after you install it.



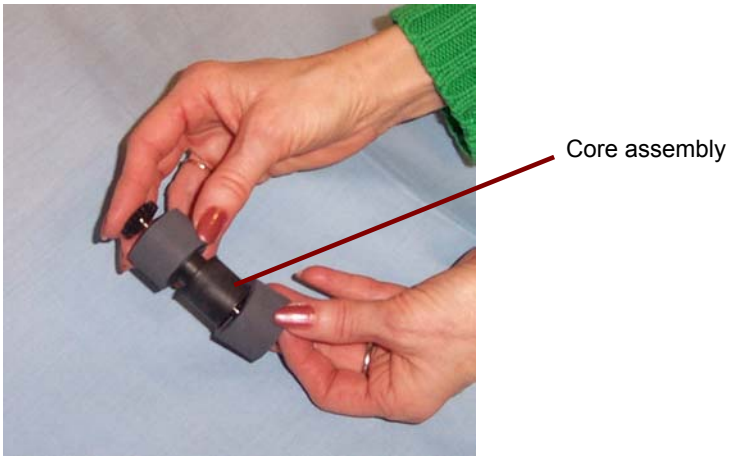
   - Close the pod and the printer access cover.
   - Reinstall the output tray.

If you want to replace the tires, proceed as follows:

6. With one hand, press the locking tabs (one on each side) while holding the bottom housing with the other hand, pull the upper housing up and away from the rollers.

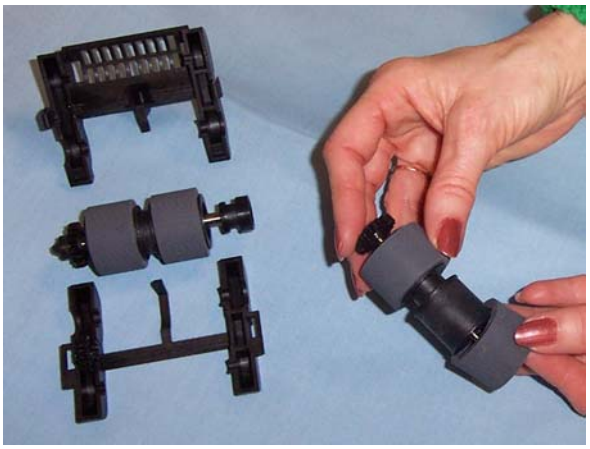


7. Remove one core assembly.
8. Replace each tire by sliding the tire off the core.



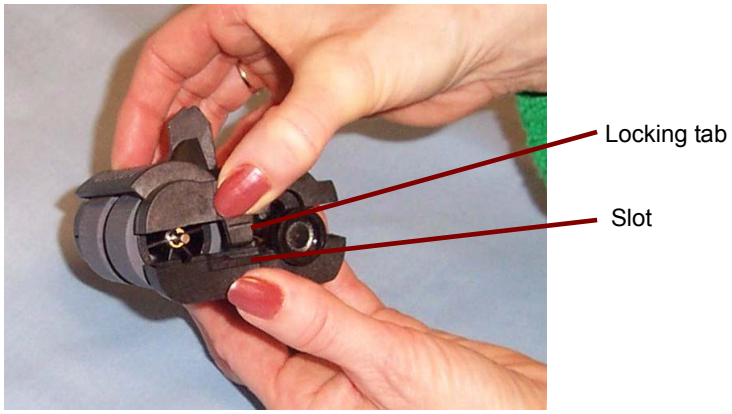
9. Install each new tire by gently pulling it over the core.

   IMPORTANT:Do not overstretch the tire; it may tear.

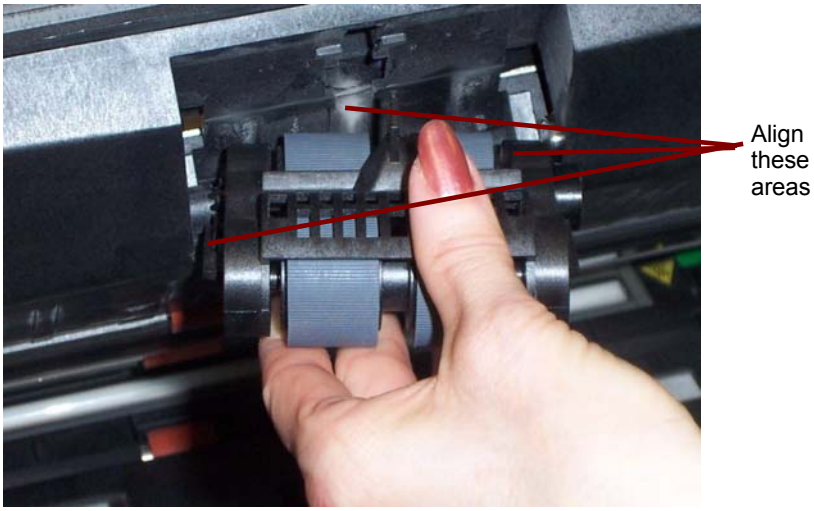


10. Replace the core assembly in the feed module.
11. Repeat the replacement procedure outlined above for the other core assembly.

12. Align the tabs on the upper housing with the slots on the lower housing.



13. Press the upper and lower housings together until they snap into place.
14. Reinstall the feed module by aligning the pins, fitting it into position and pulling up on the release lever to lock it into place. Verify that the feed module is securely in place and moves freely after you install it.



15. Close the pod.
16. Close the printer access cover.
17. Reinstall the output tray.

Replacing the separation roller or separation roller tires

1. Open the pod.
2. Pull the separation pad holder forward and remove the separation roller.

If you want to replace the separation roller, do Steps 3 and 4. If you want to replace the separation roller tires, go to Step 5.

3. Insert the new separation roller. Be sure to line up the slots on the separation roller with the holders.
4. Push the separation roller holder back in place and close the pod.

To replace the tires:

5. Replace each tire by sliding the tire off the core.
6. Install each new tire by gently pulling it over the core.

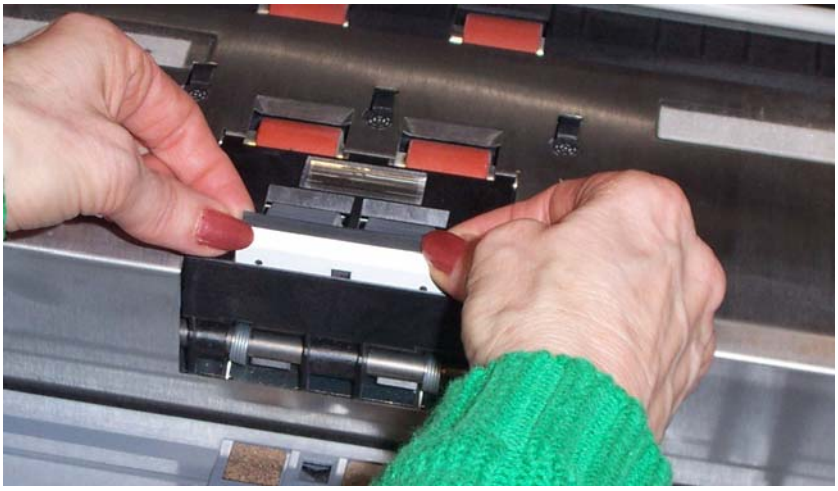
   IMPORTANT:Do not overstretch the tire; it may tear.

7. Reinstall the separation roller. Be sure to line up the slots on the separation roller with the holders.
8. Push the separation roller holder back in place and close the pod.

Replacing the pre-separation pad

Change the pre-separation pad when the frequency of double-fed documents increases.

1. Open the pod.
2. Remove the pre-separation pad.



3. Install the new pre-separation pad. Be sure it snaps into place.
4. Close the pod.

Replacing the imaging guides

The imaging guides should be replaced when they are heavily scratched and defects show in the image.

NOTE: Handle the imaging guides carefully as to not put fingerprints on the guides.

1. Open the pod.
2. Turn the screw on each end of the upper imaging guide to remove it from its position.

3. Install the new imaging guide and turn the screws to secure the imaging guide.
4. Repeat Steps 2 and 3 to replace the lower imaging guide.
5. Close the pod.

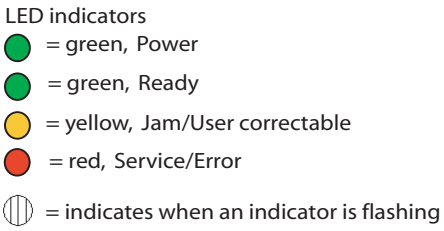
6 Troubleshooting

This chapter provides:

- A description of the indicator lights located on the front of the scanner.
- Information about accessing the Operator Log.
- A problem solving chart.
- A message listing of possible errors you may encounter while using the scanner.

Indicator lights

There are four indicator lights on the front of the scanner. See the table below for LED meanings:



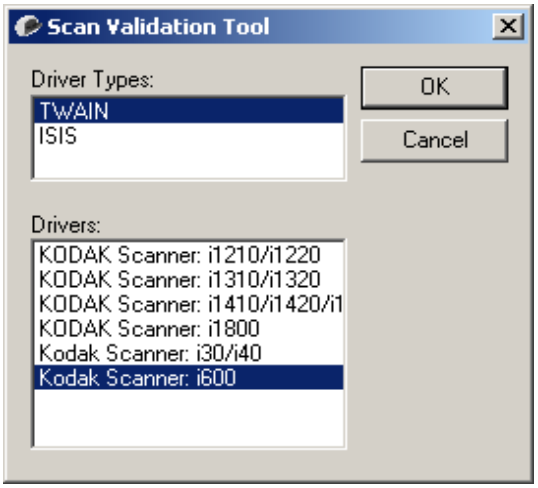
Led display	Description
	Scanner is in sleep or lamp saver mode. To return to Ready state: • press the **Start/Resume** button on the scanner or enable scanning from the host, or • add paper to an empty elevator tray, or remove paper from the elevator tray.
	Scanner is powered on and idle.
	Scanner is idle and a document jam or multi-feed has been detected. See Operator Log for details.
	Scanner is idle and has detected a user-correctable error. See Operator Log for details.
	Scanner is idle and has detected a hardware/software error. Cycle power on the scanner. If the condition persists, see the Operator Log for details. If the condition cannot be cleared, call Service.

Led display	Description
	Scanner is in sleep mode and has detected a hardware error. Cycle power on the scanner. If the condition persists, see the Operator Log for details. If the condition cannot be cleared, call Service.
	Scanner warm-up sequence.
	Scanner is enabled. Start/Resume and Stop/Pause buttons are available.
	Scanner is enabled and scanning is allowed. Start/Resume and Stop/Pause buttons are available, however a warning condition has been detected. See the Operator Log for details. (e.g., clean the imaging guides, calibrate the scanner, etc.)

Accessing the Operator Log

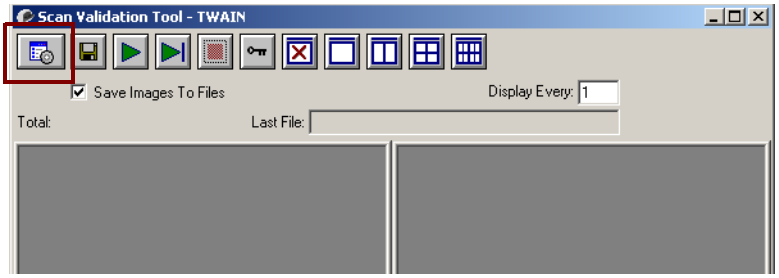
The Operator Log is accessed through the Scan Validation Tool.

1. Select **Start>Programs>Kodak>Document Imaging>Scan Validation Tool**.
2. From the Driver Types box, select **TWAIN**.
3. Open the Scan Validation Tool.

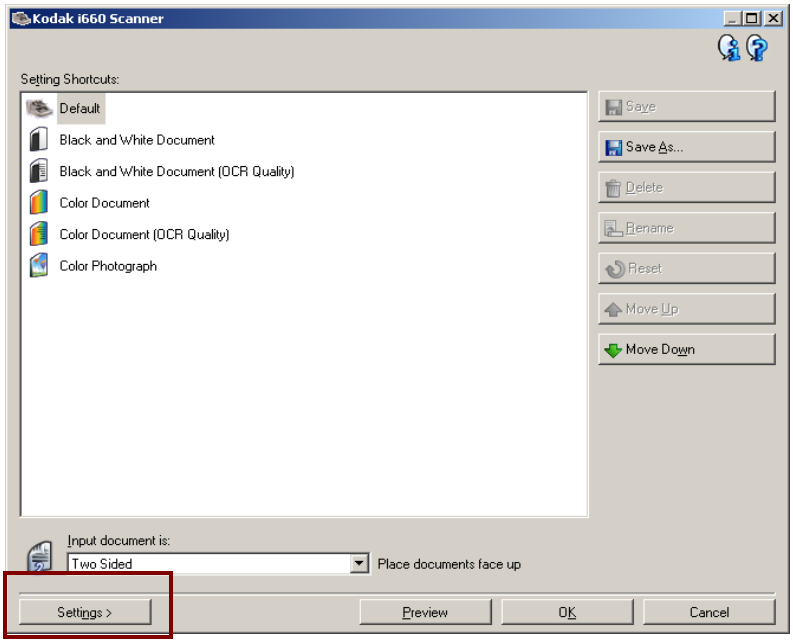


4. Select **Kodak Scanner: i600**.

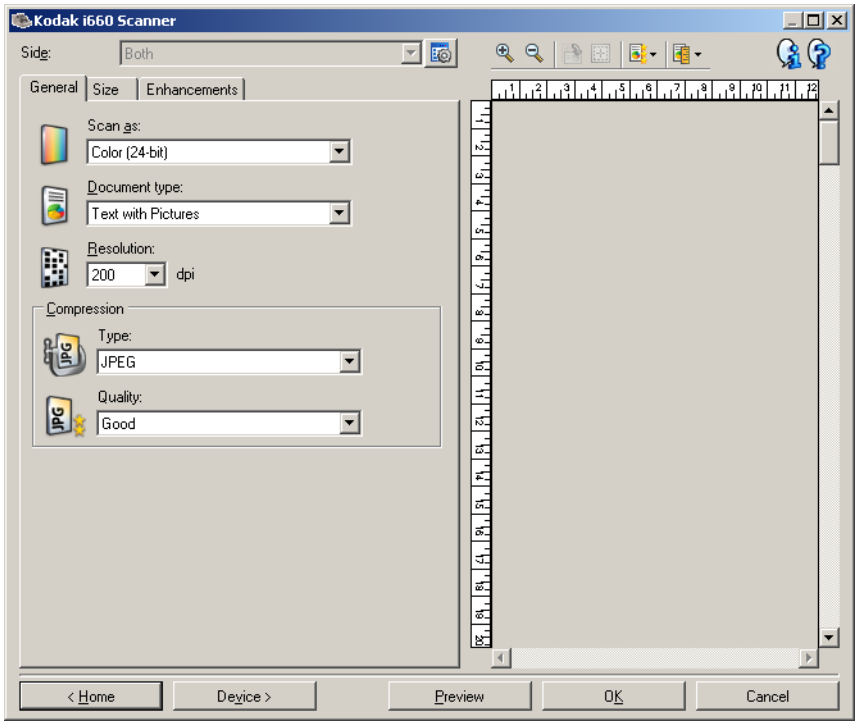
   The main *Kodak* Scanner window will be displayed..



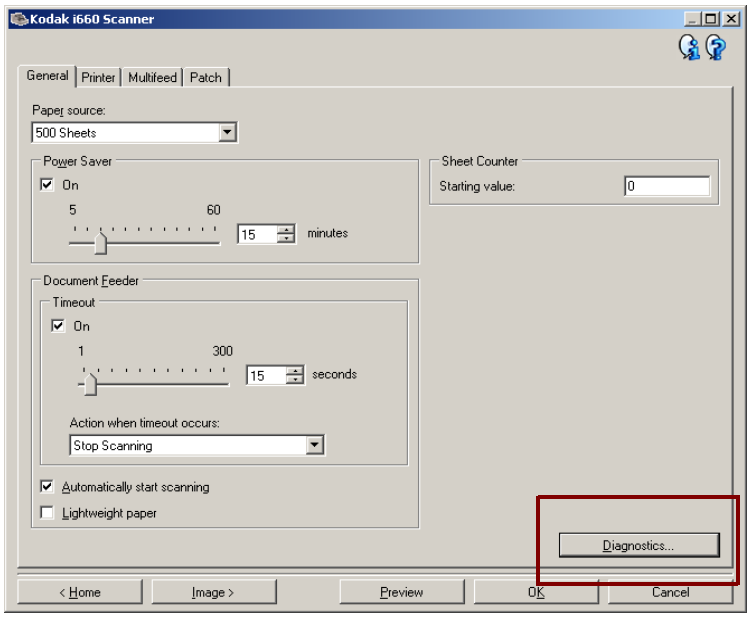
5. Click the **Setup** icon to access the main *Kodak* Scanner window..



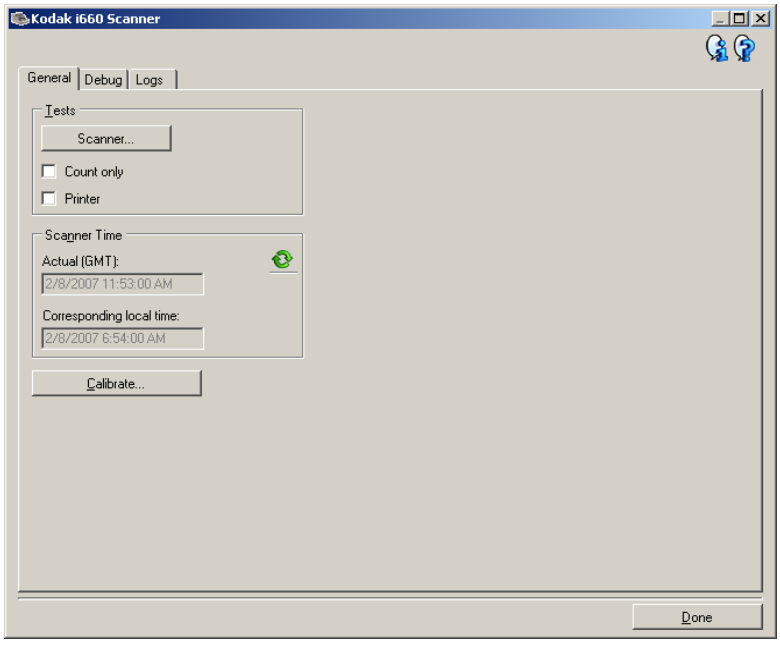
6. Click **Settings**. The following screen will be displayed.



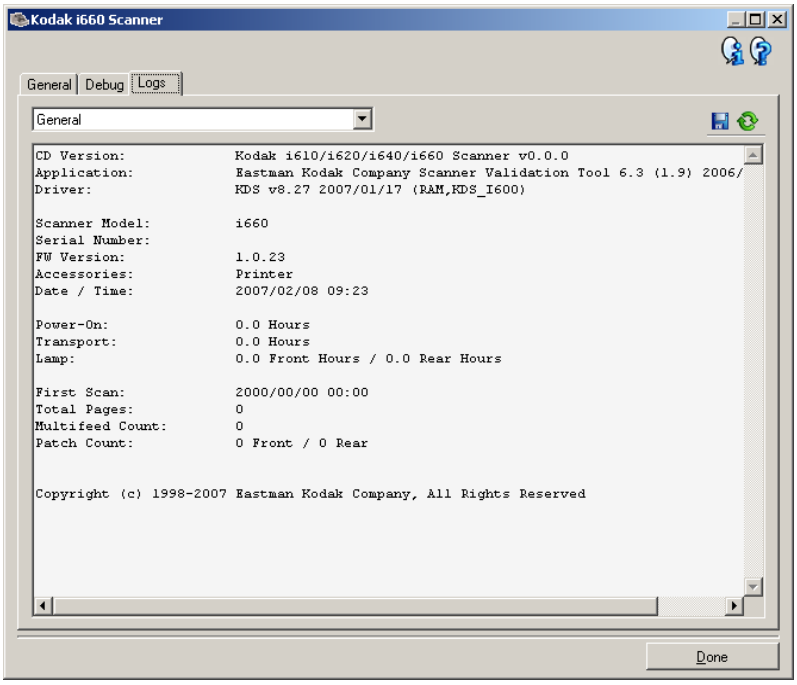
Click **Device**.The following screen will be displayed.



7. Click **Diagnostics**. The following screen will be displayed.



8. Click the Logs tab.



9. From the drop down box, select **Operator** to display the Operator log. The most current log entries are displayed at the top of the list. See the following Message Listing for an explanation of the error condition.

Message listing

Following is an alphabetic list of messages and corrective actions you can take if one of the following messages is encountered.

Operator Log Message	ID#	Description/Action
Background accessory changed while powered up	381	Background Accessory was changed while the scanner was powered on. • Turn the power off to the scanner, wait a few seconds and power the scanner back on. • If you get this message and you did not change the Background Accessory, clean and calibrate the scanner.
Calibration failed	108	• Try to calibrate the scanner again. Be sure you are using the correct calibration target. See Chapter 3, “Calibrating the scanner”. • Clean the imaging guides. See Chapter 5, *Maintenance* for procedures. • If the problem persists, call Service.
Calibration is suggested	185, 585, 985	• It is suggested that you calibrate the scanner when the current batch of documents has completed.
Calibration succeeded	107	*Informational message.* The scanner has been successfully calibrated.
Calibration target is too narrow	331	The calibration target is too small. A 12- x 12-inch calibration target is required for Image calibration. • Calibrate the scanner again using the correct calibration target.
Call Service	Many ID numbers	A condition was detected that may require repair. • Turn the power off to the scanner, wait a few seconds and power the scanner back on. • If the problem persists, call Service.
Check document preparation	123	• Make sure the leading edges of the documents are aligned. See Chapter 3, “Document preparation” for more information.
Check imaging guides and lamps	149, 549, 949	• Verify that the imaging guides are installed correctly. See Chapter 5, *Maintenance*. • Clean both sides of the imaging guides. • If the pod is closed, and the message persists, call Service.
Close pod and re-enable scanner	306	The pod may have been opened and not closed properly when scanning was attempted. • Be sure the pod is completely closed.
Document too dark to deskew	143, 543, 943	*Informational message.* The scanner was unable to find the document edges to determine the skew angle. • The document is too dark. • The image is too large.
Document too long to rotate	46, 446, 846	The scanned document was too long to rotate. Scanning was stopped. • Locate this document and rescan it with a lower resolution or with Rotation turned off.
Elevator too full, feed module missing or broken	297	• There is too much paper in the elevator tray and it is holding the feed module up. The elevator tray capacity is 500 sheets. Remove some documents from the elevator tray. • The feed module is not installed properly. See Chapter 5, *Maintenance*, for correct installation procedures. • If the problem persists, call Service.

Operator Log Message	ID#	Description/Action
Image buffer exceeded threshold	1, 48	The feeder has stopped and the transport is still running because the scanner's internal image buffer is almost full. Processing will resume after the host computer has successfully retrieved enough images to allow the scanner to continue. • Be sure your host computer meets the recommended specifications to avoid this condition.
Image outside document area	286	Based on relative cropping parameters, the image to be generated from this document would be outside the document area. • Make sure the relative cropping offset, width and length are correct and that the correct document is being scanned.
Image size exceeds available memory	301	There is not enough room to store this image in the buffer using the current settings. • Lower the resolution setting before scanning the next batch of documents. • Select a different compression value.
Jam in transport	30	A document is lodged in the transport. • Remove the documents that have been scanned from the exit tray. • Open the pod. • Remove any jammed documents from inside the transport. • Close the pod. NOTE: The following procedure is a general guideline. Your procedure may be different depending on how your application is set up. • Verify the last document that was scanned correctly. • Place any documents that were not scanned at the top of the batch. • Place the documents in the elevator tray and begin scanning. One or more documents that passed through the transport were not scanned. • Refeed all documents for which images were not obtained.
Lamps not ready for calibration	110	Calibration was attempted before the lamps were warmed up. • Wait until the lamps have completely warmed (90 seconds) and try the calibration again.
Lamps not ready for scanning	252	Scanning was attempted before the lamps were warmed up. • Try to scan again.
Lamps ready for calibration	278	*Informational message*. The lamps are warmed and the scanner is ready for calibration.
Lamps ready for scanning	280	*Informational message*. The lamps are warmed and scanning can be started.
Lamps timed out	355	• *Informational message.* The lamps were turned off due to inactivity.
Lower imaging guide dirty or document in transport	294, 694, 1094	The lower (rear) imaging guide is dirty or there may be a small piece of paper in the imaging guide area. • Follow the cleaning procedures in Chapter 5, *Maintenance* to clean the imaging guides.

Operator Log Message	ID#	Description/Action
Multi-feed detected	23	A multi-feed document condition has been detected and the scanner was set to the **Display only** mode. • Check the host monitor to see if there are any overlapped documents that may need to be rescanned. This condition may be caused by poor document separation. • Replace the separation roller tires and pre-separation pad. See Chapter 5, *Maintenance* for procedures.
Multi-feed detected	334	A multi-feed has been detected, the transport has stopped and the job has ended. • Re-enable the scanner. Check the host monitor to see if there are any overlapped documents that may need to be rescanned. This condition may be caused by poor document separation. • Replace the separation roller tires and pre-separation pad. See Chapter 5, *Maintenance* for procedures.
Multi-feed length detected	247	A document was measured which exceeded the configured maximum allowable length in the **Display only** mode. This may be due to a document overlap. • Check the host monitor to see if there are any overlapped documents that may need to be rescanned. This condition may be caused by poor document separation. • Replace the separation roller tires and pre-separation pad. See Chapter 5, *Maintenance* for procedures.
Multi-feed length detected	248	A document was measured which exceeded the configured maximum allowable length and the transport has stopped. This may be due to a document overlap. • Re-enable the scanner. Check the host monitor to see if there are any overlapped documents that may need to be rescanned. This condition may be caused by poor document separation. • Replace the separation roller tires and pre-separation pad. See Chapter 5, *Maintenance* for procedures.
No paper in elevator tray	260	The scanner was started with an empty elevator tray. • Place the documents you want to scan in the elevator tray and try again.
Page on demand complete	337	*Informational message.* The scanner has completed scanning the requested number of documents.
Parameter settings conflicting	4	The image processing values sent by the host are invalid. • Check the job settings for illegal combinations. Refer to the *Image Processing Guide* for valid parameter values.
Pod door closed	213	*Informational message.* The pod was closed.
Pod door opened	212	*Informational message*. The pod is not closed completely.
Power on self-test completed	20	*Informational message.* The scanner has completed its self-tests after power-on.

Operator Log Message	ID#	Description/Action
Print head not installed	282	An attempt was made to use the Document Printer without a print head installed. • Be sure the cable is properly connected to the ink cartridge carrier and the ink cartridge is installed in the print head assembly. See Chapter 4, *The Document Printer* for more information. NOTE: The ink cartridge must be installed before turning on the scanner.
Printer bitmap font in use	132	*Informational message.* At the time of this message, a bitmap printer font file was found on the Flash disk and is being used in lieu of the static font information built in the scanner software.
Printer count exceeded maximum set value	258	The printer count is larger than the maximum configured value. • Reconfigure the scanner to allow a larger value for the printer count. Refeed the document set. Documents passed through the transport but no images were created. • Refeed these documents and verify that the images have been captured.
Refeed document set	52, 137, 153, 537, 553, 937, 953	Documents passed through the transport but no images were created. • Refeed these documents and verify that the images have been captured.
Scanner failed to enable	5	• The previous error condition has not been corrected. For example, there could be a document jam that has not been completely cleared. • Incomplete or conflicting image processing parameters. For example, selecting Error Diffusion for binarization and Noise Filter together. • See other log entries for the actual condition.
Scanner failed initialization	6	This error could occur during scanner power-up. • Power-down the scanner, then power down the PC. Wait a few seconds and then power the PC back up, then power up the scanner. • If the problem persists, call Service.
Scanner has lost synchronization	131, 531, 931	An internal scanner sync condition has occurred. • Clear the documents and power cycle the scanner. Rerun the job. • If the problem persists, call Service.
Scanner interface cable reset	319	The scanner interface cable has reset. Some device on the FireWire bus was unplugged/plugged in. • Check that all FireWire connectors are securely fastened.
Scanner paused for rotation or host processing	63	*Informational message.* Scanner paused. • Slow host PC may not be able to keep up with the scanner. • Auto rotation may be causing the scanner to slow down.
Transport timeout	336	*Informational message.* The transport was turned off due to inactivity.
Ultrasonics calibration failed	333	The Ultrasonics calibration failed. • Power up the scanner and try to calibrate again. Be sure you are using the correct ultrasonics calibration target. See Chapter 3, “Calibrating the scanner”.

Operator Log Message	ID#	Description/Action
Ultrasonics calibration succeeded	332	*Informational message.* The scanner ultrasonics has been successfully calibrated.
Ultrasonics is not calibrated	255	• Perform an Ultrasonics calibration. See Chapter 3, “Calibrating the scanner” for procedures.
Upper imaging guide dirty or document in transport	270	The upper (front) imaging guide is dirty or there may be a small piece of paper in the imaging guide area. • Follow the cleaning procedures outlined in Chapter 5, *Maintenance* to clean the imaging guides.

Numerical message listing

Use the following numeric listing to quickly find an error. Use the previous Message Listing chart for details and actions regarding the error condition.

ID#	Description/Action
Many IDs	Call Service.
1	Image buffer exceeded threshold
4	Parameter settings conflicting
5	Scanner failed to enable
6	Scanner failed initialization
20	Power on self test completed
23	Multi-feed detected
30	Jam in transport
46	Document too long to rotate
48	Image buffer exceeded threshold
52	Refeed document set
63	Scanner paused for rotation or host processing
107	Calibration succeeded
108	Calibration failed
110	Lamps not ready for calibration
123	Check document preparation
131	Scanner has lost synchronization
132	Printer bitmap font in use
137	Refeed document set
143	Document too dark to deskew
149	Check imaging guides and lamps
153	Refeed document set
185	Calibration is suggested
212	Pod door opened
213	Pod door closed
247	Multi-feed length detected
248	Multi-feed length detected
252	Lamps not ready for scanning
255	Ultrasonics is not calibrated
258	Printer count exceeded maximum set value
260	No paper in elevator tray
270	Upper imaging guide dirty or document in transport
278	Lamps ready for calibration
280	Lamps ready for scanning
282	Print head not installed
286	Image outside document area
294	Lower imaging guide dirty or document in transport

ID#	Description/Action
297	Elevator too full, feed module missing or broken
301	Image size exceeds available memory
306	Close pod and re-enable scanner
319	Scanner interface cable reset
331	Calibration target is too narrow
332	Ultrasonics calibration succeeded
333	Ultrasonics calibration failed
334	Multi-feed detected
336	Transport timeout
337	Page on demand complete
355	Lamps timed out
381	Background accessory changed while powered up
446	Document too long to rotate
531	Scanner has lost synchronization
537	Refeed document set
543	Document too dark to deskew
549	Check imaging guides and lamps
553	Refeed document set
585	Calibration is suggested
694	Lower imaging guide dirty or document in transport
846	Document too long to rotate
931	Scanner has lost synchronization
937	Refeed document set
943	Document too dark to deskew
949	Check imaging guides and lamps
953	Refeed document set
985	Calibration is suggested
1094	Lower imaging guide dirty or document in transport

Problem solving

Use the chart below as a guide to check possible solutions to problems you may encounter when using the *Kodak* i600 Series Scanner.

Problem	Possible Solution
Scanner does not power on	Make sure that: • the power cord is plugged securely into the receptacle in the back of the scanner. • the wall outlet is not defective (call a licensed electrician). • the power switch is on.
Scanner is not being recognized by the Scan Validation Tool	Make sure that: • when the software was installed, it was installed by someone with Administrator privileges.
The scanner will not scan/feed documents	Make sure that: • the power cord is plugged in and the power is on. • all doors are completely closed. • the scanner is enabled from the host. • documents are making contact with the feed module. • for documents that require special handling, press the gap release lever during feeding. • the documents meet specifications for size, weight, etc. • if you are feeding small documents, be sure that the documents are covering the paper present sensor on the elevator tray. • you check the feed module, separation roller, and pre-separation pad for signs of wear and replace these parts if necessary. • a very dark document on the bottom of a stack, or curled document lead edges, can sometimes confuse the paper present sensor. Place a white sheet of paper at the bottom of the stack and scan again.
Image quality is poor or has decreased	Make sure that: • the imaging guides are clean. See Chapter 5, *Maintenance*. • the scanner has been calibrated. See Chapter 3, “Calibrating the scanner”. If unsatisfactory image quality persists, call Service.
Calibration has failed	Make sure that: • you are using the proper calibration target and it is oriented correctly for the type of calibration you are performing. The Image calibration target and Ultrasonics calibration target are different. • the imaging guides are clean. • the transport is clear of obstructions. • the sensors are clean. If unsatisfactory image quality persists, call Service.
Documents are jamming	Make sure that: • the output tray and side guides are adjusted for the length of the documents being scanned. • all jammed documents have been removed from the transport area. • documents meet specifications for size, weight, height or batched documents, etc. • the sensors are clean. • the separation roller, feed module, and pre-separation pad are clean and properly installed. • the transport rollers are clean. • you check feed roller, separation roller and pre-separation pad for signs of wear and replace as needed.

Problem	Possible Solution
Long documents are not feeding or are jamming	Make sure that: • the elevator tray extender is pulled out to provide support for long documents. • the output tray is adjusted for the length of the documents being scanned. • the output tray is installed properly.
Roller marks appear on the documents after scanning	Clean the feed module rollers, separation rollers and transport rollers.
Vertical streaks appear on the image	Make sure that: • when you calibrate the scanner that you are using a good, clean calibration target and that the imaging guides are clean. Use the calibration target provided with your scanner. See Chapter 5, *Maintenance*.
The enhanced printer is not printing as desired	If you are having problems printing on scanned documents: • verify that the ink cartridge is not empty. • make sure that the ink cartridge is properly installed in the Enhanced Printer. • make sure that the ink cartridge is located in the correct position for printing. • make sure that the ink cartridge carrier is properly seated in its slot. • verify that all printer connectors are securely fastened and that the printer cable is securely attached. • verify that the printer has been enabled through the host and that the expected print string has been specified.
White lines appear at the top of the image and run through the documents	• The imaging guides may be dirty. See Chapter 5, *Maintenance*. • Check for scratches on the imaging guides. If scratches are on the imaging guides, replace them.
Side guides will not move	• Remove all documents from the elevator tray and be sure the locking switch is in the unlocked position.

Appendix A Accessories

This chapter provides a description for the accessories that are available for use the *Kodak* i600 Series Scanners.

- ***Kodak* Feeder Kit for Ultra-Lightweight Paper** — allows you to feed lightweight paper from a paper weight range of 25 g/m^2 to 75 g/m^2 kg (7 to 20 lbs). CAT No. 896 5279
- ***Kodak* White Background Accessory** — if you are scanning translucent documents, this accessory will reduce black background bleed-through while scanning which produces whiter documents. CAT No. 894 9000

Ultra-Lightweight Paper Feed Module

The *Kodak* Feeder Kit for Ultra-Lightweight Paper includes a feed module and separation roller that are specially designed to feed light-weight paper through the scanner transport. This accessory includes the following:

- 1 Feed Module
- 1 Separation Roller
- 4 Pre-separation Pads
- 17 Replacement Tires for the Feed Module
- 9 Replacement Tires for the Separation Roller

Instructions for installing the Ultra-Lightweight Paper Feed Module are included with the kit.

White Background Accessory

When you scan translucent documents, the background often appears dark. The *Kodak* White Background Accessory will reduce black background bleed-through while scanning which produces whiter images.

The White Background Accessory comes with two white background strips that replace the two black background strips in the scanner. Instructions for installing the White Background Accessory are included with the kit.

Appendix B Specifications

Scanner Type/Speed	• i610 Scanner: duplex bi-tonal and grayscale scanner with an automatic document feeder including a document printer, 80 pages per minute (landscape) • i620 Scanner: duplex color scanner with an automatic document feeder including a document printer, 80 pages per minute (landscape) • i640 Scanner: duplex color scanner with an automatic document feeder including a document printer, 100 pages per minute (landscape) • i660 Scanner: duplex color scanner with an automatic document feeder including a document printer, 120 pages per minute (landscape)
Scanning Output	Bi-tonal, 8-bit grayscale, 24-bit color
Output Resolution	Bi-tonal: 200, 240, 300, 400 Color: 100, 150, 200, 240, 300 (for i620, i640 and i660 Scanners only) Grayscale: 100, 150, 200, 240, 300
File Format Output	JPEG, Group 4 compression, uncompressed
Scan Area	Width: 6.4 to 30.5 cm (2.5 to 12 in.) Length: 6.4 to 86 cm (2.5 to 34 in.)
ADF Capacity	500 sheets of 20 lb. bond paper (up to A3)
Recommended Daily Volume	i610/i620 Scanner: up to 80,000 pages per day i640 Scanner: up to 100,000 pages per day i660 Scanner: up to 120,000 pages per day
Light Source	Dual Xenon lamps
Scanner operational voltage	100 - 240 VAC, 50/60 Hz, 5-2.5 A
Scanner Dimensions	Height: 40.6 cm (16 in.) Width: 60.9 cm (24 in.) Length: 76.2 cm (30 in.)
Scanner Weight	38.6 kg (85 lbs.)
Host Connection	IEEE-1394 (FireWire) interface, 6-pin connector
Operating Temperature	15 to 35°C (59 to 95°)
Humidity	15 to 75% (dry bulb)
Environmental Factors	Complies with Energy Star requiremetns Complies with Executive Order 13221
Heat Load	2500 BTU/hr. max
Altitude	Up to 2440 m (8000 ft)
Acoustic Noise	Data was measured in accordance with DIN 45 635, ANSI S12.10-1985 and ISO 7779 in a semi-anechoic chamber. Operating: 60 dBA Standby: 42 dBA

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